

FORESTS



For any right-of-way, construction, or land-clearing operations involving timber, you'll save time with the tool of the timber expert - a McCulloch chain saw.

Send today for Complete Illustrated Data







\$415.00 • 60-inch Blade - \$425.00 • 20-inch Bow Saw - \$425.00

THERE'S A McCULLOCH FOR EVERY TIMBER-CUTTING JOB









All prices f. o. b. Los Angeles automatic clutch · kickproof automatic-rewind starter • full-power sawing at any angle . manually operated chain oiler . grouped engine controls . lightest weight for power output • anti-friction bearings

NATIONWIDE SALES AND SERVICE



CORPORATION

Los Angeles 45, California **Export Department**

301 Clay St., San Francisco 11, California, U.S.A.



THE AMERICAN FORESTRY ASSOCIATION

A. C. SPURR President

SAMUEL T. DANA Vice-President

RANDOLPH G. PACK Vice-President

S. L. PROST Executive Director

JOHN M. CHRISTIE Treasurer

FRED E. HORNADAY Secretary

BOARD OF DIRECTORS

BRYCE C. BROWNING, 1950—Ohio, Muskingum Watershed Conservan-cy District.

7. J. DAMTOFT, 1952—North Carolina, Southern Pulpwood Conservation Association.

SAMUEL T. DANA, 1950—Michigan, School of Forestry and Conserva-tion, University of Michigan.

tion, University of Michigan.

C. H. PLORY, 1950—South Carolina, Association of State Foresters.

KARL T. PREDERICK, 1952—New York, New York State Conservation Council.

WILLIAM B. GRELLY, 1951—Washington, West Coast Lumbermen's Association.

ON P. JOHNSTON, 1952—North Carolina, North Carolina Forestry Association.

National Association of Soil Con-servation Districts.

GEORGE W. MERCK, 1950—New Jersey, Merck & Co., Inc. WALTER H. MEYER, 1951—Connec-ticut, Yale School of Forestry.

BANDOLPH G. PACE, 1952—New York, Charles Lathrop Pack For-estry Foundation.

LLOYD E. PARTAIN, 1951—Pennsylvania, The Curtis Publishing Com-

THEODORE S. REPPLIER, 1951— District of Columbia, The Adver-tising Council, Inc.

JAMES J. STORROW, 1952—New Hampshire, Society for the Protec-tion of New Hampshire Forests.

WILLIAM P. WHARTON, 1950— Massachusetts, National Parks Association.

THE ASSOCIATION

The American Forestry Association is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and the part they play in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

FORESTS

PUBLISHED BY THE AMERICAN FORESTRY ASSOCIATION

ERLE KAUFFMAN Editor

JAMES B. CRAIG Associate Editor

NORT BASER Assistant Editor JAMES FISHER Art Director

VOL. 56, NO. 4	Contents							A	APRIL, 1950			
THE MIGHTY OAKS By Margaret Curtin Finlay	•	٠		•			4					6
FACTS ABOUT THE OAK WILT							۰					10
Evolution of the Forest Fi	RE I	DANG	GER !	Мет	ER		٠		٠			12
FOREST OF THE LAURENTIDE By Henry S. Kernan	•		٠	۰		,	•	٠	٠		a	14
Unification of Federally-O By Robert L. L. McCormick	WNE	D L	ANDS								a	17
SHAKE MAKER				٠								18
WILDLIFE VALUES					٠							20
Neighborly Forestry By Nort Baser	٠	٠										22
TALLEST CHRISTMAS TREE .		4										25
Adventuring in Trees and (By Henry T. McKnight	GRAS	s—I	Part	IV								26
SOCIALIZED FORESTRY IN BRITARY O. C. Goodwin, Jr.	TAIN					٥	٠		٠			28
CONSERVATION IN CONGRESS. By James B. Craig	•	٠		•			٠					30
THIS MONTH WITH THE AFA												47
EDITORIAL												48



THE COVER

By mid-April, perhaps a little later this year due to heavy snow, the valley of Yosemite National Park in California will present its Pacific dogwoods, redbuds and azaleas in full bloom. As shown in Ansel Adams' cover picture of Pacific dogwood, the Yosemite variety has somewhat larger flowers than that of its eastern relation, the flowering dogwood. However, the white flowers are less numerous. Pacific dogwood is usually found between the elevations of 3000 and 6500 feet at the lower end of the conifer belt. This picture is from Yosemite and the Sierra Nevada illustrated by Ansel Adams and published by Houghton Mifflin Company, of Boston, Massachusetts.

AMERICAN FORESTS is published monthly by The American Forestry Association at 919 Seventeenth Street, N. W., Washington 6, D. C. Subscription price \$5 a year. The Editors are not responsible for less or injury of manuscripts and photographs while in their pessession or in transit. The Editors are not responsible for views expressed in signed articles. Entered as second-class matter at the Postoffice at Washington, D. C., under the Act of March 3, 1879. Acceptable for mailing at special rate of postage provided in Section 1103, Act of October 3, 1917, authorised July 10, 1918. Additional entry at Baltimore, Maryland, December 29, 1931. Copyright, 1950, by The American Forestry Association.



LETTERS TO THE EDITOR

Postscript to an Editorial

I have read with much appreciation your editorial on Mr. Rockefeller in your February issue. The only criticism I have to offer is that you did not wind it up along these lines:

"The American people should understand, however, that legislation by Congress since 1932 has made it impossible for any individual in the future to become such a public benefactor."

The truth of this statement will become increasingly apparent in all lines of eleemosynary activity as the years go on.

T. Raymond Pierce Wellesley, Massachusetts

Use What We Have

I have read with keen interest Harlan P. Kelsey's "Arborways for America" in your December (1949) issue, and agree in principle to the desirability of such arborways for the reasons listed, and perhaps he could have added a few more basic advantages also.

In comment on Mr. Kelsey's question "Is there any better way to introduce plant and wildlife knowledge and enjoyment at its best to all our citizens than by creating these arborways?" I would like to say that, as excellent as this idea is, it will not go far enough to reach all the citizens, nor will it have the far-reaching effects Mr. Kelsey hopes for, and all America needs, to recover from the sins of the past.

When you hear the clamor for a Missouri Valley Authority and see some of the inadequacies of our Tennessee Valley Authority; when you read dire reports concerning our lowering national water table and see the results of flood, drought, wind and erosion—all these repeated time after time after time—it has been a constant wonder to me that the most obvious approach to the problem has never been attempted!

Fundamentally, we are a people who learn best by doing and not by being done for. As I see it, conservation education of our people does not lie in the creation of another federal agency such as an "Arborways Commission," but in making fuller use of agencies already created and functioning; federal, state, and local alike. We have the tools in hand—

all we need is to realize their possibilities.

To start with, there is no sound reason why the U. S. Department of Agriculture, with its millions of subsidy dollars paid to farmers all over America, could not insist, as a condition for receipt of those subsidies, that a fair percentage of the property of the recipients be set aside, planted, and maintained by them as woodlots. Reforestation and all its healing goodness would then have a national standing of far-reaching proportions.

This additional directive by the USDA, insisting on a forest crop, would not be out of character with their present methods as pertains to other crops.

The planting of arborways along roads bordering farms, not only along heavily traveled scenic routes as suggested, but on every road in every county of every state, could be a part of that condition and an adjunct to the program. Where highways pass through cities and villages, the rights-of-way might be turned over to local agencies for beautification in accordance with an established arborways plan to insure continuity. The National Park Service, with its brilliant record of conservation and beautification, would be well able to handle the program on federal properties.

This country could be made to bloom in all its potential glory if this were done.

The worst enemy of such a program is its *simplicity*—plus the fact that the bulk of it could be accomplished without costing the American taxpayer another nickel!

Gordon B. Wallace

Wilmette, Illinois

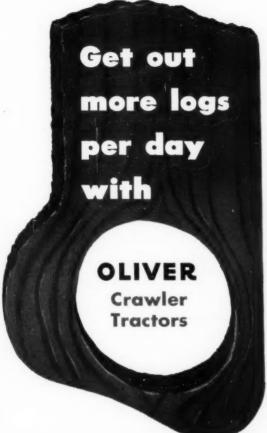
The Situation in a Nutshell

We want to commend you on your editorial ("The Right to Govern Themselves") in the January issue, as this is certainly well put. We especially feel that the next to last paragraph hits the nail on the head.

In other words, if so many of us did not have to devote so much time and so much money trying to prevent federal encroachment, we could do a better practical job of taking care of what we have.

We might add that we enjoy your publication very much.

D. O. Holmes Kendallville, Indiana



You can get out more logs per day and per season... cut your logging costs... with an Oliver HG Crawler Tractor.

This husky little tractor with its twin aids to better logging . . . the hydraulic drawbar and hydraulically operated Imp dozer . . . gives your logging a big lift. The Imp dozer builds trails, repairs roads, pushes logs into position at the deck or in the woods. The tractor-dozer unit is small enough to get into practically inaccessible locations . . . powerful enough to handle a real load.

The hydraulic drawbar hauls out the logs with the butt ends in the air. The terrific resistance caused by the logs burying themselves as they are skidded is eliminated so you can handle a far bigger load. And, the operator never has to leave his seat. He simply drops the tongs over the load and lifts or lowers the logs with the hydraulic drawbar.

Check these aids to faster, more profitable logging for your operations. Your Oliver Industrial Distributor will be happy to give you all the facts. Or, if you prefer, write direct to The OLIVER Corporation,

19300 Euclid Avenue, Cleveland 17, Ohio.



Industrial Division: 19300 Euclid Avenue, Cleveland 17, Ohio

A complete line of crawler and industrial wheel tractors





Distinctive

McGRAW-HILL

FOREST PRODUCTS

Their Sources, Production and Utilization

By A. J. Panshin, Michigan State College; E. S. HARRAR, Duke University; W. J. BAKER and P. B. PROCTOR, Oregon Forest Products Laboratory. American Forestry Series. 549 pages, \$6.00

A text presenting in concise form information on the origin, methods of conversion and utilization of the principal primary and secondary forests products with the exception of construction lumber. With special emphasis on recent developments and trends, this text treats the eco-nomics of forest utilization, wood products, chemically derived products from wood, and derived and miscellaneous wood products.

THE WESTERN RANGE LIVESTOCK INDUSTRY

By Marion Clawson, Department of the Interior. American Forestry Series. 401 pages, \$5.00 Describes the range livestock industry from an economic point of view. The author treats the physical environment upon which the industry is closely dependent, the ownership and management of the extensive areas of land which the industry uses, the economic problems of ranch organization and operation, credit for the industry, and the factors affecting demand for, and supply of,

HARVESTING TIMBER **CROPS**

range livestock products.

By A. E. WACKERMAN, Duke University. American Forestry Series. 437 pages, \$5.00

Covers all phases of harvesting, from preliminary considerations involved in planning and preparing for the actual harvesting steps to cost con-trols and records. The final chapter, devoted to regional harvesting practices, was prepared by seven contributors, each an expert in his region. The subject of timber harvesting is treated as an integral part of forestry, rather than as an independent procedure. The author covers the harvesting of all important forest products such as saw logs, pulpwood, poles, ties, and veneer blocks.

Send for copies on approval

McGRAW-HILL BOOK CO., Inc.

330 WEST 42ND STREET NEW YORK 18, N. Y.

For the Answer, Turn to Page 10

I have read with alarm two recent articles published in local newspapers regarding the appearance of what is known as "oak wilt" in the oak stands of this middle section of the United

According to these articles, this dread disease attacks all species of oaks, causing the leaves to wither and the tree to die, often within a period of from two to four weeks after first appearance. The disease is apparently spread through small organisms carried by the winds from stand to stand, and has already been detected in four or five midwestern

The most alarming feature of these articles was the statement made that no preventive measures are known other than cutting and burning each infected tree and that eventually this wind-borne disease will spread throughout the country and destroy our entire oak stand irrespective of species. One of these articles emanated from Washington and had quotations by Forest Service officials.

What a calamity to contemplate! In the Midwest here the oaks constitute perhaps as high as 90 percent of the timbered areas and over the country as a whole probably are our most

valuable hardwood.

As a member of The American Forestry Association, I sincerely trust that our organization is aware of this threat and that all efforts will be made to stem its progress before it is

I shudder to think what southern Michigan, northern Indiana and Illinois and southern Wisconsin would look like with all the oaks gone.

H. N. Oberg

Chicago, Illinois

To Customers of Manning Seed Co.

In the article "Tillamook Replants," by Gordon A. Sabine, in your December (1949) issue, it is stated that "The seed requirements of this job are enough to stagger the imagination. Total orders will be for something like forty tons, totaling about seven billion seeds. The first year's order was for a mere six tons. but these 12,000 pounds were more than all the seed firms of the Pacific Northwest combined ever had bid on before."

The Manning Seed Company has shipped orders of this size many times in our seventy-nine years of collecting West Coast tree seeed. Our present plant capacity at Roy, Washington, is well over 60,000 pounds a year, while our extraction plant at Queen Charlotte Island, B. C., can handle another 40,000 pounds.

We would hate to have our new customers assume from this article in your esteemed magazine that the Manning Seed Company, which supplied a large portion of the seed used by Oregon in 1949 and 1950, is now producing and selling all the tree seed they can handle, This is not the case, as we have several thousand pounds of West Coast tree seed stored at zero temperature in our seed bank. This seed is available for immediate shipment, upon request of our customers throughout the world.

> F. E. Manning Manning Seed Company

Roy, Washington

A Friend Indeed

It is a pleasure to include a word of appreciation for the splendid magazine you prepare each month. Though I am now a long way from the mainland forests. I was brought up in them and am happy to see folks fighting for their continued existence.

Anyone who is a friend of the forest and the soil in which it grows is

a friend of mine,

May your power and good influence grow.

Arthur E. Kocher

Honolulu, Hawaii

On Population Control

In reading the papers offered at the annual meeting and published in your November (1949) issue, I found one by Guy Irvin Burch which proposed population control as an essential foundation for conservation. This is for all its innocent and polite sound an odious and immoral thesis. Hitler practiced population control and so do the Russians. It means mass murders or executions - forcible migrations with or without penal repressions - and in the more "civilized" peoples it means birth control, abortion, etc. It presumes probably to determine just who shall inherit what has been conserved and if you are a Jew or a Negro or have red hair or something else the controllers don't like, you are liquidated or sterilized.

If conservation of America's splendid resources has to mean denial of certain people's right to live, the movement toward conservation has ended in a futile and despairing blind

I hope never to see such technical "trash" in your paper again.

Dr. John W. S. Brady Spokane, Washington

Helping in Healthier Growth, Safe-Keeping and Lowest Cost Maintenance of our FORESTS



The *new* All-Purpose



Unparallelled in the preparation of the finest beds for tree seeds - the SEAMAN produces an excellently pulverized tillage (usually in one trip) in which humus building nutrients are uniformly distributed throughout entire tillage depth. Saves hundreds of hours of labor in tree nurseries.

SAFE-KEEPING OF FOREST LANDS . . .

Widely used to cut emergency fire lanes. Towed at high road speeds by light pick-up truck the SEAMAN Motorized unit can immediately be hitched to towing tractor for lane cutting operations. Saplings cleared and leveled. Self-Propelled model readily truck mounted for transport or driven under own power on road and at scene of forest fire.

FOREST MAINTENANCE . . .

Particularly on tree planted areas where underbrush is to be kept down to help tree growth and minimize fire hazard, the SEAMAN is a quick, cost-saving implement. Used successfully by large lumber concerns.



Typical quality of soil-fitting produced by the SEAMAN for tree nursery tillage — and generally in one trip.



The SEAMAN saves many man-hours in brush clearing operations. Quickly builds emergency forest-fire lanes.

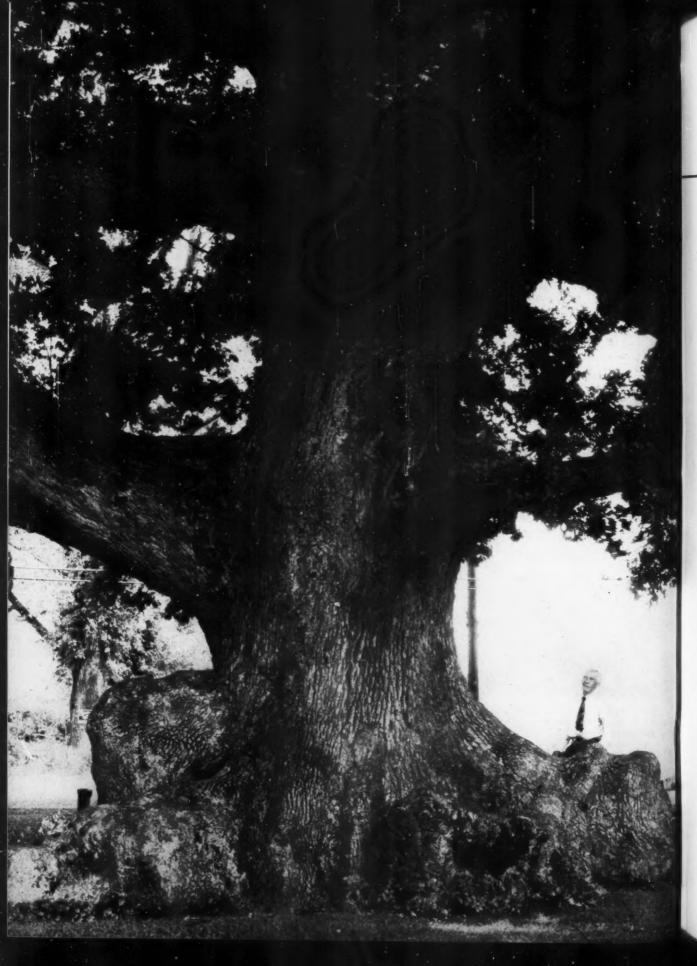
MODELS OF THE SEAMAN

Depending upon acreage and the job to be done, - Tractor power take-off, Motorized and Self-Propelled Models are offered, Tractor power take-off models recommended only for seed-bed preparation.

299 NORTH 25TH STREET . MILWAUKEE 3, WISCONSIN



aration, fire lane construction and brush clearing free on request. Just



Bi to the lo the bi

to be is we it ha

ar we kn Th sh the cli sp pr the sa me

ly im of ily the Ri co

its

4

The Mighty Oaks

With public interest focused on the deadly oak wilt blighting portions of the Middle West, it is important that all citizens become better acquainted with these stately and valuable trees

By MARGARET CURTIN FINLAY

Photographs by S. Glidden Baldwin

HE oak has always been a symbol of age and strength. From the time of the Druids of old Britain and Ireland who, according to legend, worshiped it as a god, and the ancient Greeks and Romans who looked upon it as the tree of Jupiter, this majestic tree has symbolized nobility in the plant kingdom.

This admiration—and in ancient times adoration—for the oak is due to its sturdy qualities and rugged beauty—and also to the fact that it is widely distributed throughout the world. Certainly in its many species it forms the most important group of hardwoods on the North American continent, perhaps in the Northern Hemisphere.

In the Americas the oaks number around 300 species—and this figure would in crease considerably if known hybrid forms were included. They ranged in size from creeping shrubs to massive trees, reaching their largest growth in the warmer climates. There are around eighty species native to the United States, probably sixty of tree size. As to their economic importance, it can be safely stated that the oaks furnish more native timber than any other related group of broadleaved trees.

But that is another story. The purpose here is to become more intimately acquainted with some of the more important and interesting members of this valuable and stately tree family. And the place to begin is with the magnificent white oak, pride of the nation east of the Mississippi River, and distinguished in any tree company.

Most stately of all oaks, it reaches its greatest size in the valleys of the

western slope of the Allegheny Mountains and in the bottomland of the lower Ohio Valley. There forest-grown trees will tower 150 feet, and occasionally individuals up to eight feet in diameter can be found. It is the open-grown tree, however, with its wide-spreading branches and sweeping broad crown, that inspires most people.

Its bark is typical of the white oak clan—ashy gray to nearly white. The branchlets are bright green at first, then become reddish and finally gray. Its thin leaves are from five to nine inches long and about half as broad. The scissors, so to speak, that cut out the pattern starting at the broad top have gone carefully around the edge snipping it into long beautifully rounded finger-like lobes.

Young leaves are briefly bright red changing to silvery green and settling finally on the bright yellow-green of maturity. In the autumn they turn a rich russet, ending their lives as they began on a red note. Usually they hang on the tree through much of the winter.

Acorns mature in one year, characteristic of the white oak family, and occur singly or in pairs. The oblong, light brown nuts are about a quarter of an inch long.

Individual white oaks have been known to live 800 years. The largest, and perhaps oldest, living member of this clan is at Wye Mills, Maryland. Twenty-eight feet in circumference, this giant has a limb spread of 165 feet.

The massiveness—and it is monolithic—of the bur oak ranks it second only to the white oak. Certainly it is one of the most majestic trees in



George Baetahold

Pollen-bearing flowers grace the northern red oak in late spring. Later acorns form, leaves develop Erset Crandell



the world. It is characteristic of the Middle West, but grows with surprising adaptability over much of the eastern half of the nation.

Once these peerless trees spread over the Middle West in vast park-like areas. They offered shelter to man and beast in the first onrush of the army of covered wagons—and then fell victims to these pioneer guests and to the exploiters who followed them. Today they seldom grow in dense stands, but individually or in groups—and while trees up to 180 feet high have been reported, they normally range from eighty to 100 feet.

The flaky bark of this magnificent member of the white oak family is reddish brown. Its rounded, lobed leaves, largest of all the oaks, are from six to twelve inches long and wedge-shaped at the base. They turn dull yellow in the autumn and do not cling to the tree in winter as do those of so many oaks. The broad, egg-shaped acorns are three quarters to two inches long and are set in deep scaly cups with fringes of long coarse scales, which gives the tree its name—bur oak or mossy cup oak.

The largest living bur oak on record stands near Charleston, Missouri —twenty-one feet in circumference.

Among the black oaks—they are naturally divided into two groups—the northern and eastern red oaks are trees of great appeal. Stately and ornamental, northern red, as its name implies, is a tree of the Northeast and

Middle West, though it is known to grow as far south as Mississippi. Its dominant characteristic is a thick, relatively short trunk, stout branches and slender twigs, with a broad symmetrical crown of dark green foliage. Its bark is reddish brown, as are its acorns, an inch or more long with a diameter only slightly less. The leaves are five to nine inches long, cut into bristle-tipped lobes. They turn deep red or orange in the autumn and hang on the tree into winter.

flee

nea

sla

jor

sha

Co

wi

eve

tio

on

its

CIC

Th

sta

bu

lin

th

of

fee

to

fo

er

ac

th

tre

ah

SC

ea

he

co

di

ol

in

08

01

St Ti C

cl

n

e

The eastern red oak has all the major characteristics of the northern tree with this exception—there is a little more of it. Actually, it is the largest of all the black oak group, as

are its acorns.

The largest northern red oak on record—nineteen feet in circumference, with a limb spread of 135 feet—is at Lloyd's Neck, Long Island, New York. The largest eastern red stands near West Ashford, Connecticut—twenty-three feet in diameter with a spread of 100 feet.

The black oak, one of the commonest of eastern oaks, is also one of the largest. Ranging from the eastern seaboard to the Mississippi River, it reaches its best growth in the lower Ohio basin, where trees 150 feet high with a trunk diameter of from four to five feet are occasionally found.

In contrast to the red oaks, its branches are slender, the twigs stout. Its bark is almost black and intensely bitter. Coarse, leathery leaves are harsh to the touch, from five to six inches long, deeply indented and bristle-tipped, as are the leaves of all oaks in the black group. The acorns, produced every two or three years, another characteristic of the black oaks, are either stemless or on short stalks.

The largest black oak on record—a giant twenty-four feet in circumference—is at Millbrook, New York.

While all oaks as a group are strikingly handsome, by far the showiest is the scarlet oak. No other oak dyes its leaves such vivid scarlets and crimsons and reds in the autumn; no other oak surpasses it in symmetry and grace. In the South it may thrust its beauty 150 feet above the ground, but elsewhere—and it ranges from Maine to the Great Plains—it seldom exceeds seventy to eighty feet in height. Its tapering trunk sends out slender branches that shares the singularity of the swamp white oak in having upper and lower branches de-



Monarch of all black oaks grows on Long Island, New York. It measures nineteen feet, five inches in girth flected at different angles.

Bark on mature trees is rough and nearly black. Its showy leaves are slashed nearly to the midrib in major and minor divisions, all of them sharply barbed.

In the South Atlantic and Gulf Coast states the majestic live oak, with its great spreading limbs and evergreen leaves, is among the nation's most impressive trees, certainly one of its noblest. In many instances its massive trunk supports a rounded crown as broad as the tree is high. The largest live oak on record, for instance, near Hahnville, Louisiana, is but seventy-eight feet high, but its limb spread exceeds 165 feet, more than twice its height. The great trunk of this tree, incidentally, is thirty-five feet in circumference.

Live oak bears the distinction of being the first North American tree to be conserved for future use in a forest preserve. So valuable was its wood for shipbuilding that the government, in 1799, purchased 350

acres for this purpose.

The laurel oak, named for its lustrous leaves, which resemble those of the laurel, is another large and stately tree of the Deep South. Nowhere abundant, it generally occurs as a scattered tree but is quite common in eastern Florida where it attains a height of 100 feet, with a straight, columnar trunk three to four feet in diameter. A semi-evergreen, the small oblong leaves remain on the tree during the winter, falling in early spring.

Rich, indeed, is our heritage of oaks. There is the picturesque pin oak of the East and Midwest, a prized ornamental tree, with its branches studded with pin-like lateral shoots. There is the swamp white oak of the Central States, with its distinctive "hoop skirt"-lower branches that slant to the ground forming a network fringe around the trunk. There is the chestnut oak, that ranges from Maine to Alabama, with leaves that resemble those of the chestnut; its close relative, the chinquapin oak, with its large stubby trunk and heavy upright branches; and the swamp chestnut oak of the Deep South and Atlantic seaboard, one of the country's most important timber trees.

The post oak, with its gnarled branches and dense crown, is a common sight throughout nearly all the eastern United States except the northern fringe of states. The overcup oak, a tree of river swamps and southern bottomlands, distinguished by acorns almost fully enclosed in their cups, is a relatively small but important tree. The shingle oak, along with the willow oak, is highly regarded in the East and South—the latter as a shade tree.

The Far West also has its mighty oaks, the most outstanding of which is the California white oak, a broad crowned, graceful tree with massive trunk and drooping sprays of branches. A tree of this species near Chico, California, is twenty-eight feet in circumference. The Oregon white oak is a similarly beautiful tree that often reaches heights of from eighty to 100 feet. The canyon live oak, which ranges from Oregon down into Mexico, is a tree of narrow canyon

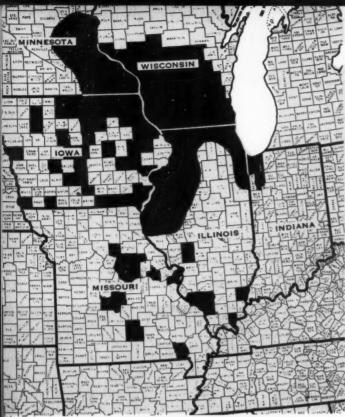
bottoms and great dimensions. One magnificent specimen on the Angeles National Forest in California, has a circumference of thirty-six feet.

This is larger than the largest elm (thirty feet in circumference); larger than the largest pine (thirty-two feet); and nearly as large as the largest spruce (fifty feet). To compare it with the true giants of the tree world—the largest Douglasfir is fifty-three feet in circumference, the largest western redcedar sixty-three feet, and the largest sequoia 102 feet in circumference.

No wonder the oaks, combining strength and rugged beauty with great size, symbolize nobility in the plant kingdom.



This southern red oak, sometimes called Spanish oak, has a circumference exceeding twenty-four feet



Currently (March, 1950)
oak wilt is known to exist only in the shaded
areas shown on this map

Facts About the Oak Wilt

From Plant Disease Reporter

There is little reason for undue alarm, but oak losses in the Midwest and unknown behavior of fungus disease are causing pathologists grave concern

In mid-February, millions of Americans were startled by press and radio reports that one of their most prized trees, the oak, was in imminent danger. A disease known as oak wilt, caused by the fungus Chalara quercina, was gaining momentum at an alarming rate, these reports stated. One highly Hoopered radio announcer, for example, reported in a coast-to-coast newscast that the disease was spreading at the rate of fifty miles a day.

Other accounts stressed the fact that the oak in its multitude of species is one of the nation's most economically important hardwoods, comprising the larger percentage of forest stands in most eastern states, and pointed out that "If the oaks go, building costs will skyrocket, many towns will be shadeless and watersheds will be denuded."

Typical of public reaction to the reports was an eastern woodland owner who telephoned a Department of Agriculture pathologist for advice on whether or not he should abandon forest management plans in favor of clear cutting. The American Forestry Association was bombarded with letters expressing alarm over the situa-

tion—citizens from all walks of life gravely concerned over the threat to one of their most valued trees.

And they have cause for concern. But the situation is far from being as critical or as alarming as the press and radio indicated. While it is true that the disease is known to kill red oaks six weeks after infection and that few stricken red or black oaks survive longer than a year, reports of its fifty-miles-a-day spread are ut-

Close-up study of young black oak leaves wilted by fungus infection



terly without foundation. In fact, pathologists lack proof that it will spread even at an average rate of fifty miles a year.

According to Dr. Curtis May, senior forest pathologist with the Bureau of Plant Industry, Department of Agriculture. "There is no immediate cause for widespread panic. A dying of oak has been observed in the Midwest since 1925, but to date the oak wilt has been reported only in parts of six states." These are Wisconsin, Minnesota, Illinois, Indiana, Missouri and Iowa.

The cause of oak wilt, the fungus Chalara quercina, which grows in the sapwood of the tree, he declared, was not reported until 1944. Thus it is not possible to prove earlier instances of dying trees were attributable to the oak wilt, although Dr. May believes they were.

As to the speed at which the disease is spreading, Dr. May is careful to separate fact from fancy. "Who knows how fast it is spreading?" he asks. "Because it was discovered in the vicinity of St. Louis in 1944 and, six years later, at another locality 300 miles away, can we say it is traveling at the rate of fifty miles a year? How

do we know the disease wasn't prevalent at the later site in 1944 also?"

Dr. May and most of his colleagues believe that since no spores have been found on the outside of oaks, it is not likely the disease is "commonly and importantly" airborne. The host range of the fungus is not known, but it has not been found on other kinds of trees.

Symptoms of oak wilt vary in the different species, says Dr. May. The disease usually develops more rapidly on red and black oaks than on white oaks. First symptoms on red oaks usually appear in the upper crown. Leaves become dull or pale light green and curl upward, often turn yellow to reddish brown before falling. The disease soon spreads to the lower and inner portions of the crown, and the tree may lose nearly all its leaves within a month after becoming affected.

In the spring newly formed leaves may wilt, turn black and cling to the twigs. Red oaks infected late in the year usually develop small scattered leaves belatedly the following spring,

HOW AFA MEMBERS CAN HELP

Members of The American Forestry Association in the Midwest can perform a real service in the fight against oak wilt by reporting to their State Agricultural Experiment Station all oak trees showing symptoms of wilt. Symptoms for the various species of oak are described in detail in this article. —Editor

and then soon die In Wisconsin, foliage symptoms on diseased trees become conspicuous in June or July but may be seen from May through September.

In the affected parts of the tree a streaked brown discoloration generally develops just underneath the bark. In a cross section of a diseased branch the discoloration appears as a brown ring or as a circle of brown spots in the outer sapwood.

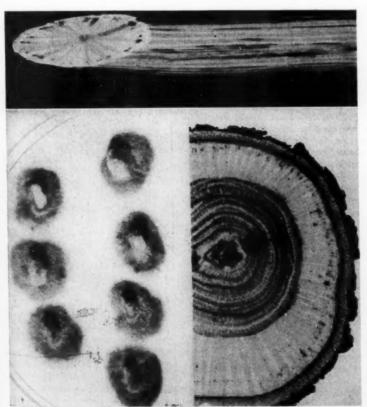
Symptoms may differ on white oaks and bur oaks. The disease may appear on one or more branches in any part of the crown, the leaves wilt,

turn yellow and drop. Leaves on the unaffected parts of the tree, however, remain green. The disease spreads throughout the crown less rapidly than in red oaks, but its killing effects can be just as deadly.

Because the disease is apparently not airborne, it should not be compared with the chestnut blight which traveled far and fast on the prevailing winds. Furthermore, its slow pace will give investigators a chance to develop better methods of checking and controlling the fungus, which is more closely related to the beetle-carried spore which causes Dutch Elm disease than it is to that of the chestnut blight.

A. J. Riker and J. E. Kuntz, plant pathologists at the University of Wisconsin, have presented definite proof that oak wilt travels from tree to tree through naturally grafted roots, a common occurrence in oak stands. Underground root grafts, caused when the roots of several trees grow together, are normally beneficial, but when oak wilt strikes, the grafts act

(Turn to page 43)



From Phytopath

Two views (top and lower right) of discoloration under bark of infected black oak twig. Lower left, oak wilt fungus viewed through a miscroscope



From Phytopath

A group of defoliated oak trees which have succumbed to an attack of wilt

Evolution of the Fire Danger Meter

How enterprising researchers in the Northern Rocky Mountains have eliminated much of the guesswork in forest fire control

NE day thirty years ago, two U. S. Forest Service rangers phoned their regional head-quarters in Missoula, Montana. Both men—one in southern Idaho, the other in the northern part of the state—requested additional funds for fire control activities.

During the conversation, each was asked how dry the forest was on his district. The first ranger replied that it was "pretty dry" over where he

was.

"Dry!" exploded the second ranger. "Why, it's so dry down here all the rabbits are carrying water bags! Furthermore . . ." The remainder of the forester's report was given in language that would make a muleskin-

ner blush.

From this telephone conversation, it could easily be concluded there was a much greater danger that forest fires would start on the second ranger's district. Actually, however, at that time conditions were about the same all over Idaho. Why, then, the seemingly conflicting reports? Until the end of the twenties, fire danger reports were informal and conditioned by the personality and experience of those making them. What one optimistic ranger might call merely a "dry" condition, another might describe as "terribly dry." A less experienced man could easily label an explosively dry forest as only "quite dry." There was no standard for determining and describing fire danger so that everyone would know exactly what conditions prevailed. Consequently, it was extremely difficult for fire control officers to determine in advance how large an organization would be needed at various times during the fire season.

Nineteen years ago this problem was solved by utilizing the same principle used in an early photographic exposure guide. The man who came up with the solution was Harry T. Gisborne, from 1937 until his death in 1949 chief of the fire research division at the Northern Rocky Mountain experiment station at Missoula. It was he who devised the Forest Service's fire danger meter.

Today, there are eleven different fire danger systems in the United States. All have been derived from the Missoula original and adapted for



the forest fuels and weather in the various sections of the country where they are used. The story of the first fire danger meter, however, starts thirty years ago.

In 1919, the Northwest experienced the second worst fire season in its recorded history; only the 1910 season was more disastrous. Millions of acres of valuable timber burned as the smoke from hundreds of fires blotted out the sun, and ashes settled over the countryside.

There had been disastrous fire years previously, but this was the one that convinced the Forest Service that a new approach to the problem was needed. So, for the first time in its history, the Service authorized a full-time position in fire research. Harry Gisborne was selected to fill that position.

For the first eight years, Gisborne answered many fire calls, taking notes and observing fire behavior. Factors such as wind velocity, the amount of moisture in the vegetation and in the air, and the kind of trees in the burn were recorded and later evaluated. Close to 600 observations were made during this period.

After the data had been compiled and summarized, it was found that only a part of the job had been completed. Although a great deal was known concerning the effects of various factors on fire behavior, there was no way that forest supervisors and rangers could put the information to practical use. Furthermore,

By AL PEFFER

they required new instruments for measuring many of the factors.

First, an instrument called a duff hygrometer was originated for measuring the amount of moisture in this potential fuel. Duff is the partly decayed litter on the forest floor. The hygrometer is composed of a hollow twelve-inch steel rod with a meter at its top. The rod is about three times as thick as an ordinary lead pencil and has holes spaced along its surface. Inside the rod is a strip of rattan, a tropical palm fiber which expands when wet and shrinks when dry. The action of the rattan activates the attached meter which then indicates how much moisture is present in the duff.

Another instrument, consisting of a set of four wood cylinders, stemmed from a realization of the importance of such potential fuels as dead branchwood. The cylinders are one half inch in diameter, and twenty to twenty-two inches long. Each set weighs exactly 100 grams when oven dry.

In actual use, the sticks are supported under a screen to approximate shaded forest conditions and the observer weighs them each day during the fire season. By simply subtracting 100 from the scale reading, the observer knows the amount of moisture in the sticks. The moisture content of two-inch sticks and logs up to eighteen inches in diameter has also been measured to help determine fire danger.

Each year, because of weathering, 1600 new sets of wood cylinders are used in western forest regions. They are made at the Priest River experimental forest, a branch of the Northern Rocky Mountain experiment station, from best-quality ponderosa pine sapwood. Although any softwood could be utilized, ponderosa is used because of its accessibility and relative inexpensiveness.

New instruments were also needed to measure wind velocity and visibility. A device already existed for the first purpose—the anemometer. However, they were too expensive for widespread use, so the Northern Rocky Mountain station went to work in cooperation with a commercial instrument maker and produced a prac-

tical anemometer at less cost.

Another instrument problem was solved with the invention of a suitable visibility meter. This was soon followed with a similar device so that visibility distance could be measured.

The visibility meter, resembling an over-sized photographic filter, is fastened to one side of a binocular. The operator then looks toward a dark, timbered ridge at a known distance from his location. By moving a lever, a prism is made to slide past the small hole in the instrument through which the operator gazes, until the original of the two images in the field of view becomes so weak that it is about to merge with the horizon haze. The meter, with scale ranging from one to seven, is then read. This reading, multiplied by the known distance in miles from the observed ridge, gives the visibility distance - the distance from an observer to a dark ridge or similar object when it is just barely visible against the horizon sky.

Now foresters knew the contributing factors of fire danger and were in possession of instruments for measuring these factors. This left unsolved the task of integrating the observed factors so the responsible forest officers could readily determine the fire control action needed.

This final major problem cost researcher Gisborne many sleepless nights. He spent much of one winter working with various types of charts but found that there were just too many different factors to allow a satisfactory solution by this method. Then one spring day in 1930, as he was looking through a dresser drawer for some long-forgotten item, he ran across an old photographic exposure guide. By substituting his factors for those on the guide, he fashioned the first fire danger meter to be used in the United States.

The six factors which determined fire danger in 1930 were lightning, time of year, visibility, fuel moisture, wind velocity, and number of persons in the forest. The rate at which fires spread is determined largely by the amount of moisture in the woods, greenness of woody material (which depends on season), and the activity of the wind. Also, as visibility decreases, the need for forest lookouts increases. Lightning and people are the main causes of forest fires in the Northwest.

Until 1938, a numerical scale ranging from one to seven was used to express fire danger. The lowest end of the scale, class one, indicated a condition where fires would not spread and no men were needed for fire control. At the other end of the scale, class seven, conditions were such that fires not immediately controlled could be expected to "blow up" and spread at rates of from 1500 to 2000 acres an hour. As Gisborne once said, "Put as many men as can be spared on class seven fires-and then pray!'

In 1938, the original seven were divided into sixty-four classes and, in 1942, the present total of 100 classes was adopted in the Northern Rocky Mountain region. This revision did not change the basic system, however. It merely refined the scale and made it possible to derive more detailed information.

The original meter was revised five times to its present form, but only two major changes were made. was decided to include relative humidity as a major influence on fire danger and to remove number of persons using the forest as a factor. Contrary to popular belief, it was found that an increase in number of persons using the forest did not result in an overload of fires. At least one forest officer has remarked that the influx of fishermen and picnickers on weekends merely provided him with a greater number of fire detectors.

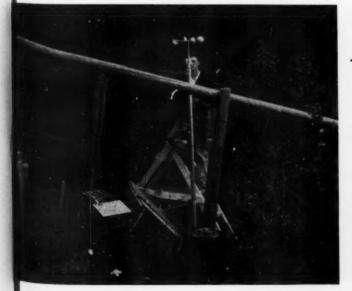
The use of wood cylinders larger than one half inch in diameter, and duff hygrometers has been discontinued because the information derived is more detailed than fire organizations require at present. However, if fire protection becomes more intensive these instruments will be available.

In 1945, the Northern Rocky Mountain fire danger meter was converted into two meters-the fire danger meter and the burning index meter. The burning index meter only considers time of year, relative humidity, half-inch stick moistures, and wind velocity. These are the factors which have a direct bearing on inflammability of the woods. After determination, the burning index number is adjusted in the fire danger meter according to visibility and occurrence of lightning, and the fire danger rating is expressed as a number from one to 100.

Thus, the burning index is a true picture of potential burning conditions in the forest. The fire danger

(Turn to page 36)

A four-cup anemometer (on pole) is standard equipment at all Forest Service weather stations. It measures wind velocity



Taking electrical measurements to determine moisture content of logs-now abandoned in favor of weighing



Forest of the Laurentide

The most important product of Quebec's Laurentide Park is pulpwood
— but it is also a vast sanctuary for wildlife and those who have
sampled its streams know it as home and kingdom of the speckled trout

HE word "park" has great prestige, indicating something desirable to the public but little else as to the use or lack of use to which a given area is put. Thus the State of Washington's huge Olympic wilderness is a park, and so are 840 acres of lawn, pavement and artificial ponds in the center of Manhattan. Almost as diverse again is the Laurentide Park in the Province of Quebec, whose 3650 square miles begin thirty miles north of Quebec City and reach to within half that distance of Lake St. John. Thus conveniently located, the park is typical of a large area rather than outstanding. This fact alone distinguishes the Laurentide from our own national parks.

Indeed, it would be hard to find a single feature not repeated a hundred times over in the huge Laurentian Shield. From Cape Chidley at the continent's northeastern tip south to the plains of the St. Lawrence and west to Lake Winnipeg, the rough and rocky surface of this low plateau is a mosaic of lakes, swamps and rivers in a drainage pattern of unbelievable complexity. It is a region of boggy divides and intricate shorelines; of lakes that drain in two directions and rivers that tumble about toward every



By HENRY S. KERNAN

point in the compass before joining a larger one whose course is scarcely less tortuous. So numerous are they before they untangle themselves into the mighty St. Lawrence, that a special commission sits in Quebec pondering new names culled from the Saints' Calender, Canadian history, and the inexhaustible well of the native tongues. Lake Quequakamaksis drains into Lac Des Commissionaires and thence into Lake St. Thomas, thus symbolizing a blending of races as well as waters.

Rarely have the glaciers left their marks on so deep or extensive a scale. Here the pre-Cambrian gneiss, granite and schist of the ancient Laurentide Mountains were worn to a peneplane and then eroded over and over by the ice. This grinding process greatly enriched the southern plains but left the shield itself with few soils deep enough for tilth. Of grazing and agriculture there is almost none. Water power is abundant, and the mineral wealth seems to be without end. Fortunately the barren muskeg of the north gives way first to a spotty and then to an all-pervasive coniferous forest that is one of the world's greatest sources of newsprint pulp.

In Quebec this forest is composed most commonly of balsam fir and the spruces, white and black - those prime denizens of the northern wilds. These trees raise their trim green crowns from swamps and hillsides and ridges wherever the soil offers a pittance to their roots. Their assets include ability to withstand shade, crowding, and harsh weather; plentiful seedlings, and a brave little leader that hurriedly pushes up a few inches during each year's short growing season. More restricted in their choice of sites are the white and yellow birches. These veterans, with their gnarled trunks and spreading crowns, look like giants next to the slender evergreens, and for this reason seem more numerous than is actually the case. They scarcely have deciduous competitors, for the alder thickets follow the waterways, tamarack is awamp tree, and poplar is only found scattered across open areas and old burns.

The vast monotony of this forest is the source of its grandeur; but single trees or groups seen above a quiet lake or a whirling white rapid are of exceptional beauty. Still more thrilling is the sense of savage wilderness created and stubbornly maintained almost within sight of Quebec. Yet like the Algonquins that once lived here, the dense and slow-growing Laurentian forest is hardy only upon its own terms. To no woods are fires more thoroughly destructive of what they burn. Insects such as the sawflies and budworms have caused enormous damage and still threaten. Now the birches have been attacked by a mysterious disease and are dying in great numbers. This fact may increase the yield of pulpwood but will certainly destroy the climax forest type.

Preservation of this type is not, however, an objective of the Laurentide Park. In other respects, also, the administration is not complicated by many of the problems that plague our national parks. Those of grazing, farming, mining and water-power development have not arisen. There are no private holdings within the boundaries. The area is not in demand for winter sports; and just plain camping out is not a habit of the predominantly French population of the province. Wildlife, speckled trout, and pulpwood are, and are likely to remain, the chief concerns of the management.

The park was established in 1927 as a game preserve, and the policy of keeping the fauna inviolate admits of no exceptions. No hunting or trap-



In the Laurentide, rivers tumble about toward every point of the compass—and these, with a myriad of lakes, are the park's main tourist attraction. Graded roads make them easily accessible





Hunting and trapping are not allowed in Laurentide Park—but it is an angler's paradise. So far, only a quarter of its 1100 lakes are fished

ping is allowed at any time-a rule enforced by vigilant and hardy game wardens. In this type of country their work is more effective because summer travel is practically confined to waterways and roads, winter travel to telltale snowshoes. Therefore, wildlife roams here as freely and abundantly as before the coming of man. Beaver work is common enough to be evident to even the most casual visitor; while the moose, being a large and extraordinarily noisy animal as it shambles about among the shallow ponds and alder thickets, can be watched in his native haunts. The whir of grouse and the rustle of woodpeckers and grosbecks in the brush; a flock of ducks; the cry of a loon; bear tracks found on a muddy shore; a spattering of blood and hair in the snow where rabbit and fox met; the old guide's story of how, long ago, he killed a timber wolf as it came down from the north driven by the hunger of a hard winter.

Indeed there are no more fascinating animals in the world than those found within the Laurentide. But, though the environment is full, for the most part the complex association of wildlife goes its way heard and heard of, and occasionally seen. The soils are too poor and the climate too harsh to admit great numbers at any one time and place. The only animal that "swarms" is the black fly—that masterpiece of entomological horror which for a few weeks in June makes

the Canadian bush nigh unbearable for man or beast.

The story is quite different with regard to the speckled trout, for this is his very home and kingdom, a land of cool deep waters and sandy shallows, of rocky streams and boiling rapids and still pools, of insects clouding over every watery surface during the long days of spring and summer. This finny gentleman seems to have just the qualities to satisfy the sporting fisherman. The process of catching him demands a delightful and amusing paraphernalia and a skill easily acquired but never quite mastered. He is abundant yet so capricious and elusive in his habits as to be an endless puzzle to the addicts.

Since 1928 the administration of the park has made every effort to develop this resource for the benefit of Canada's citizens and visitors. Because trout conditions are already ideal, no stocking, stream improvement, or feeding is needed. Therefore, the park has concentrated on making the fishing better known, more accessible, and more convenient. No section is without roads and trails. Moreover, twenty-two lodges, with a capacity of 225 persons, have been built and furnished. They are reserved for specified dates at the Quebec office. The hiring of guides is compulsory, and no one is allowed to take off through the woods unaccompanied-or even enter the park without a permit. Through these lodges the administration manages to care for some 6000 visitors from June through September and to collect \$150,000 in rentals. In turn, the visitors take away about 100,000 fish a year with no apparent diminution in the accessible supply — even though not a quarter of the 1100 lakes are fished.

This program has proved successful and is consequently being expanded. It is obviously tailored to the well-to-do; but this fact seems to be of no special concern to the French-Canadians who have never been taught to believe they have a right to all the fishing they want at public expense.

However, the most important product of the park, as of the whole eastern Canadian forest, is pulpwood. A series of huge newsprint mills along the Ottawa and St. Lawrence Rivers draw upon the forests behind them and are powered by the same waterways that float down the wood. These paper companies own very little land. Instead the government auctions "limits" of crown forest for cutting rights which are renewable from year to year. In addition, the company pays a ground rent on a square-mile basis and stumpage for whatever is removed. The quantity in any year is limited to eighty percent of the growth.

Fire regulations are strictly enforced on all lands; but such concepts as seed trees, selective cutting, and stand improvement are lacking. Even a simple diameter limit has been abandoned as being useless. Slash disposal and replanting are neither required nor necessary. Reforestation of old burns is not undertaken because the blueberry crop that usually appears is considered more valuable than the timber that might be produced. And since growth averages about one-fifth of a cord to an acre each year, this is without doubt true.

Forest management inside the park differs from that outside only in that cutting is prohibited within 200 feet of a lake or river. This wise concession to the fishing interests is somewhat nullified by the hilly nature of the country and the tendency of the shallow-rooted balsam fir and spruce to blow over. Aside from this provision, the pulp companies having "limits" in the park build their roads, dams and camps exactly as on their "limits" outside, and are responsible to the same Department of Lands and Forests.

The effect of such cutting on wildlife is, on the whole, probably bene-

(Turn to page 44)

Unification of Federally-Owned Lands

By ROBERT L. L. McCORMICK

Research Director, Citizens Committee for the Hoover Report

HE people of the United States cannot afford the luxury of having two federal agencies administer publicly - owned lands. That is the simple fact the Hoover Commission (Commission on Organization of the Executive Branch of the Government) faced. In this area, it is the prime problem which must now be solved.

The commission was unanimous in recommending unified administration. Its three task forces in the area were likewise unanimous. All knowledgeable citizens of good will agree that this is a proper end to be sought. But, when the means are suggested,

then the fur begins to fly.

For almost a half century this organizational anomaly has continued to exist, badgering everyone who espoused even a moderately well-organized government. It has existed not because the problem was unrecognized and not because no one has bothered trying to solve it. It has existed solely because no preponderance of public opinion could decide which way this particular cat ought to jump-

Historically the line-up on the issue has come down to whether or not one liked or disliked the Forest Service, in the Department of Agriculture. No one would publicly admit this, but it is true nevertheless. This Service has traditionally been a "strong bureau" and a very conservation-minded

The Bureau of Land Management, in the Department of the Interior, on the other hand, was long considered by some as one of the salt mines in the federal government. Until about two years ago, it was a favorite whipping boy in Congress. Its strength has not historically been such that its very existence could be called "an issue.

A man from Mars would, of course, immediately perceive that existence of the Forest Service should not be the issue. Doubtless, he would consider the main problem as an organizational one. Perhaps this example of democracy in practice would serve to educate him.

For, whenever this controversy has flared in the past, the Forest Service has, almost without fail, been the

issue. Names have been called. Herrings have been thrown. The Secretaries of Interior and Agriculture have broken off diplomatic relations. The extremely difficult organizational problem has always been lost in the

Fifty years have not made possible the solution of this problem. Still it

sits on dead center.

That is the problem which faced the Hoover Commission. That is the problem which faces all of us as citi-

The answer which the Hoover Commission offered was this: "This com-mission believes that logic and public policy require that major land agencies be grouped in the Department of Agriculture. It recommends that the land activities of the Department of the Interior, chiefly the public domain (except mineral questions) and the Oregon and California revested lands be transferred to the Department of Agriculture and that the water-development activities (except the local farm supply of water) be transferred to the Department of the Interior."

Its majority cat jumped thereby in the direction of Agriculture. The cat of a vocal minority, running on form, jumped vice versa. As always the ranks of the men of good will broke

on the question, "How?"

As this article goes to press, legislation to effect the commission's recommendation is shortly to be introduced. This legislation will be short and to the point. In fact, it covers less than one page. If enacted, it would transfer the functions of the Bureau of Land Management to the Department of Agriculture, as the Hoover Commission's majority recommended.

The Citizens Committee for the Hoover Report came into existence for the purpose of a program of education on behalf of the majority recommendations of the commission. Its stamp of approval will be placed on this legislative proposal. The issue

will be joined.

The problem which will still face all of us as citizens is whether or not the major federal land management agencies should be unified. The nation cannot afford to let this classic textbook example of administrative waste and duplication rest in peace for the remainder of our history as a

free people-

The means for reaching any answer appear to be only three: (1) move the Forest Service to Interior: (2) move the Bureau of Land Management to Agriculture; or (3) do

The majority of the Hoover Commission committed itself to means No. 2. The Citizens Committee for the Hoover Report is, by its basic mandate, going to do likewise.

It is up to the citizens of the nation, through their representatives in Congress assembled, to decide which of the three answers they want-

From our vantage point in Washington, it looks very much as if those persons, who believe they are supporting means No. 1 above, will end up by serving the purposes of those who like means No. 3.

Currently the only practical and attainable answer appears to be through means No. 2. Practicality seems to render it inevitable that either we accomplish means No. 2-or we get nothing. Those are the pragmatics of the situation.

There is a vast quantity of illogic in the entire controversy. There is also a very strong logic behind the position of the majority of the

Hoover Commission.

Peripheral problems are particularly knotty in the field of federally-owned land. In the hurly-burly, alarums ring out, and non-organizational matters are brought to the forefront. Most of these can be solved only by the passage of new policy legislation by Congress.

The Hoover Commission carefully kept within its terms of reference, i.e., organization. It did not make any recommendations on policy.

Yet we are frequently being asked: "But, won't this merger bankrupt local government? Doesn't the Forest Service make less of a contribution to local authorities than Land Management makes under the Taylor Grazing Act?

Next, we are being asked: "Will this merger not lead to an increase in the public acquisition of privatelyowned lands, because, in this respect, the Forest Service has long followed

(Turn to page 37)



Seek a man with a "froe" if you want an artistic roof of cedar shakes. His skill is for hire—if fishing's poor

Shake Maker

By DONALD H. CLARK

N remote valleys throughout the Pacific Northwest an independent breed of men employs an ancient handicraft to gain a livelihood from the forest. Their tools are the ax, the saw, and a splitting blade called a "froe." Their raw material is native cedar salvaged from old logging operations and from land clearing. Their product, originally used to roof pioneer cabins and barns but now an aristocrat among building materials, is the hand-rived shingle or "shake."

or "shake."

The typical shake maker owns a small "stump ranch" in a mountain valley of western Washington or Oregon. He has a fairly livable house or cabin, a motor truck somewhat past its prime, an automobile in the same condition, a husky wife and an assortment of healthy kids. He may be of retirement age according to city standards, but don't try to swing an ax with him for ten or twelve hours.

There's usually a vegetable garden and a big woodpile in the background, a few chickens, a hog and a half dozen friendly hounds. The pioneer forebears of many of these mountain people came from the hills of southern states, and certain customs and habits of speech persist to the present generation. They're often "fixin' to do" something or other, and a large tree may be "six hugs around." At some cross-road stores in the Cascade foothills, black-eyed

Using his club and froe, a shake maker splits a defect from a bolt

peas and strong "twist" tobacco are staples. Hospitality is a religion, and an invitation to eat with the family should never be refused.

The men and older boys handle the heavy labor, but the entire family is a working group. If dad takes seasonal employment at a sawmill or logging camp, the others carry on shake-making activities. However, these people do not fit into the industrial world successfully. They'll work from daylight to dark in any kind of weather if they want to complete a truckload of shakes, but they resent bosses and time-clocks. They also like to take time out for hunting or fishing when they see fit, and that's whenever hunting and fishing is good.

The art of shake making was brought to the Northwest woods by pioneers from other timbered regions, and passed along from generation to generation. Other early settlers learned it around Hudson's Bay Company trading posts where shingles were somewhat reluctantly accepted in exchange for badly needed food

and clothing.

A letter dated early in 1846 is evidence that handmade shingles helped establish the first American settlement on Puget Sound by Michael T. Simmons and party. This was sent from Fort Vancouver by Chief Factor James Douglas to Dr. Tolmie at Hudson's Bay Company's Nisqually House.

"Mr. Simmons having applied to us for a supply of flour, you will please to order about thirty barrels from Fort Victoria for the purpose of supplying that demand, and you may take shingles at the usual price in payment, always taking care not



The untapered shingles in foreground are known as "barn shakes." The house in the background is shingled with the more popular and fancier tapered shakes

to allow him nor any of his people to get involved in debt... We have promised to take shingles from Simmons' people for the coming winter, at former prices."

For a full generation there were no roofs other than handmade shingles on homes in the Pacific Northwest, and it was fortunate for pioneer families that the best roofing material in the world grew right at their doorsteps. Literally so, as many had to fell cedar trees to make room for buildings.

These settlers respected the native cedar for its durability and ease of working, but the idea that handsplit cedar might be artistic never occurred to them. As soon as sawed cedar shingles became available, shakes were considered obsolete and were

relegated to barns and sheds. They remained on the doghouse for nearly four decades until architects rescued them and restored their respectability.

These architects, essentially artistic but entirely practical home planners, sought distinctive roof effects with natural materials, as a protest against an epidemic of garish and short-lived manufactured roofings. On old farms and in abandoned forest clearings they found pioneer cabins in various stages of disintegration but with the original shake roofs serviceable and almost intact. The shakes had grown old gracefully, and had weathered to natural shades of gray and brown.

In order to fabricate roofs exactly like the pioneers built, they headed for the tall timber to locate men who remembered the art of shake splitting. They didn't have to go far before they found houses and barns with shake roofs, and often a pile of surplus shake bolts in the backyard. Shake makers weren't a bit reluctant to pick up the odd dollar from city folks, but that usually meant getting hold of more cedar than they had on their own ranches.

Old logged-off land offered the best shake material. The cedar left by early-day loggers was not only cheaper and more accessible than standing timber, but usually of higher value for shakes. Even if the logs had been on the ground for a halfcentury or more, the only sign of decay was in the thin shell of sapwood.

Recently-cut areas produced little salvage, but those logged in the period of abundant cedar and low (Turn to page 42)

The butt of a huge cedar log being sawn into bolts of convenient size for handling. These are then trucked to yard or barn where they are split into shakes



Wildlife Values

What does wildlife mean to you? Here a distinguished Canadian reveals how your evaluation, whether economic or esthetic, affects management of this resource

The value of a commodity means in economics its power of commanding other commodities in exchange. It is a market value. In order that any commodity may have such an economic value certain conditions must be fulfilled. Obviously the commodity must be capable of giving satisfaction, or no one will be willing to exchange anything for it. It must be so subject to control as to be exchangeable. No one will or can exchange anything for the moon. Finally, economic value is dependent on limitation of the supply of a commodity. Air is not only useful to us, but necessary; yet under ordinary circumstances it has no economic value, no one will exchange anything for it, because every one can obtain all he wants without surrendering anything in exchange.

In ethics, on the other hand, the value of a thing means its intrinsic worth, or that which is worthy of esteem for its own sake, without reference to exchange. This is quite a different concept from economic value, but we all realize that it is none the less valid. Truth, we say, has value. Each man's life has immeasurable value to him. Such



By HARRISON F. LEWIS

Chief, Dominion Wildlife Service

values are not based on comparison or the idea of an exchange.

A value of either sort is intangible. It is not a material thing, but a notion. There are no values for us except in our thoughts. Nevertheless, values are of extraordinary importance. They alone induce us to take voluntary action.

No two persons, we may presume, will possess scales of values that are identical throughout, and yet it is only because our individual scales of values correspond and harmonize to a large extent that an organized democratic society is possible.

When we come to apply these ideas to wildlife, we find that there is a good deal of sorting to be done. There are living forms, such as small jellyfish, which for most of us have no economic value, nor, as far as we realize, any intrinsic worth. Some forms, such as ticks, have no appreciable positive economic value nor intrinsic worth, but, because of the harm they do, may be thought of as having negative value.

Higher than the jellyfish may be ranked such creatures as most butterflies, which have a kind of inseparable worth because they are capable, through their beauty, of pleasing us, but which ordinarily have no exchange value. Higher still in our scale is such a living creature as the woodcock, which does no harm, gives us esthetic pleasure, and has an economic value as a source of recreation and of human food.

There may be some inclination to take exception to assigning an economic value to game of which the sale or barter is prohibited. The prohibition of commercialization of game is a useful management device that does, it is true, conceal in some degree the precise economic value of that game, but the value is still there. This is clearly shown by the fact that there is a willingness to give other values, usually expressed in terms of money, to aid game to reproduce, to provide necessary protection for it, and to obtain an opportunity to hunt it and reduce it to possession.

The cases that have been mentioned are comparatively simple because in no one of them is a conflict of values apparent. They were selected as examples with that characteristic in mind. Such cases are by no means the general rule.

A most fruitful source of trouble for all who are interested in wildlife management is the fact that most of the forms of wildlife with which we are concerned possess conflicting values. They may have positive values for some people and negative values for others, or they may have both positive and negative values for the same people.

Consider, as an example, the black bear. To many hunters and many visitors to national parks its value is almost wholly positive. They derive satisfaction from hunting it or seeing it or photographing it and the bear does them no harm. To many farmers, on the other hand, the black bear has only negative value. It kills pigs and upsets beethives and cans of milk. It is also quite possible for a man to apprehend both kinds of value in the bear.

In the case of any one of most conspicuous kinds of wildlife the average of the sum of its values over an extended period of time is of one sort, either positive or negative, in the opinion of a dominant group of people of a given political unit, and the action of public management agencies reflects that average value.



Hart of the Sequoias—this unusual photograph by John Lindsey Blackford emphasizes the high esthetic value most Americans place on deer. And because they also have economic value, they are protected by law

Deer often do some harm in gardens and orchards, but in the eyes of most people positive economic and esthetic values are predominant in deer and therefore they are protected by statute. Coyotes have a number of positive values, such as the economic value of their fur, their value as controllers of harmful rodents, and an esthetic value, yet to the majority

of people in most areas these values are more than offset by negative values resulting from the destruction of game and of domestic stock and the consequence is that the hand of man is against the coyote.

In the case of such animals as the black bear and the red fox, there is much more difference of opinion, both individual and regional. In some areas positive values are held to predominate and the animals are protected, while in other areas the negative values are considered to be most important and bounties are paid on the animals. Cases of this kind may even be so uncertain that there is actual alternation of policy with respect to a given species in the same

(Turn to page 33)



At International's Georgetown mill, Colonel McCaffrey's foresters are eagerly helping to improve forestry practices—no matter on whose land



Neighborly Forestry

By NORT BASER

southern state forest service official recently told a gathering of influential lumbermen: "The pulp and paper mills have taken the industrial lead in promoting good forestry practices in the South. In this respect, the sawmill interests now lag far behind."

Had he made that remark twenty, or even a dozen years ago, he would have had to make a dash for the nearest exist as best he could. But lumbermen are far from quarrelsome now that they aren't so worried the pulp mills will run them out of business. Rather is there unanimous conviction that through improved woodland management southern forests can be put on a sustained yield basis capable of supporting both industries at peak production. Besides, that was no idle statement which the forestry official made.

"Exhibit A" for proving the pulp-wood industry's leadership in promoting better forestry might well be the Southern Kraft Division of International Paper Company. In fact, one need look no further than the Woodlands Department of the Georgetown, South Carolina, mill—one of eight in the Southern Kraft system. There, Colonel J. E. McCaffrey's Woodlands Department foresters are spending \$200,000 a year to improve other people's forest lands!

Not that the International Paper Company is inclined to philanthropy. Instead, the executives view this expenditure as a sound business-like means of insuring large and perpetual supplies of wood near at hand. The bulk of this wood must come from private lands whose owners have been convinced that it pays to grow continuous crops of trees. With millions

of dollars invested in a single paper mill, it is good business to spend money to insure future operations.

Pioneer for International in this development was Major J. H. Friend, now a company vice-president. He became interested in forestry when working at the Mobile, Alabama, mill about 1927. While not a forester himself, he became thoroughly convinced that foresters could help perpetuate the pine forests so vital to a continuing Southern Kraft industry. He saw to it that foresters were placed on the payroll, and in ever increasing numbers as they proved their worth. Thus, Major Friend broke the ground for the creation of the Woodlands Department, now managed by capable Earl Porter.

This big business application of the "help themselves by helping others" slogan is carried out by International through conservation foresters. Assigned to statewide territories, these men seek out landowners who need help with their forestry management problems, and they contact pulpwood producers to try to get them to comply with the cutting practices recommended by the Southern Pulpwood Conservation Association.

Typical of the caliber of men assigned to these key conservation forester posts are Walter Jaenicke and Barry Griffith, who are responsible for the respective states of South Carolina and North Carolina. Both are young, aggressive foresters who know how to temper their technical convictions with practical give-and-take when dealing with landowners or producers. They are possessed with such an unbounded enthusiasm for their job that they would rather discuss the best method of getting maximum productivity from this or that



tract of timber than eat a big steak.

There is little doubt that their sincerity is infectious with the landowners they contact. However, they make a particular point of never insisting that an owner is obligated to do as they recommend. Rather do they use a cooperative approach, trying always to show how a suggested method of managing a stand of timber will reap the owner a reasonable profit on his investment and at the same time insure a paying crop of trees for the future. The advantages of thinning, partial cutting or other treatment are pointed out, and if the owner is skeptical the conservation forester may offer to mark his tract so that the results may be more readily visualized.

"Sometimes we surprise an owner by telling him his tract is more valuable as sawtimber than it is as pulpwood," says Jaenicke. "If that's the case, we still do everything we can to help him. We have assured many future sources of pulpwood just by proving we have the best interests of the owner at heart."

In dealing with pulpwood pro-

ducers, International's conservationists let the situation at hand guide their actions. They make a practice of inspecting the various producers' cutting operations to make sure they are conforming to the standards set by the Southern Pulpwood Conservation Association.

When deviations are found, the conservationist seeks out the reason. If the producer is found to be greedy, the conservation forester may try anything from a warning to a recommendation that the producer be dropped from good standing in the company books. If it is found that the owner condoned poor cutting to increase his immediate profit, the conservation forester attempts to point out the error of allowing land to be despoiled.

In addition to contacting an average of about thirty landowners a month and keeping a close rein on the cutting practices of the producers, Jaenicke and Griffith find time to sponsor and conduct an occasional cooperative cutting demonstration to create public interest in good forestry practices. Most of these demonstra-

tion areas are near well-traveled roads and are clearly marked to attract attention.

Not a week goes by but what at least one conservation forester's report shows a talk given before a civic club or on the radio. They also make forestry exhibits to show at schools, and in the summer assist as instructors at boys' forestry camps. They are salesmen, diplomats and public relations men for good forestry and for International Paper Company.

Frequently, International's conservation foresters find rich sources of pulpwood in unexpected places. For instance, there's Myrtle Beach airport near the South Carolina vacation playground of the same name where Jaenicke supervised the marking of 3000 acres of longleaf pine. A few miles further north is the 4000-acre Tilghman (a well-known name in lumbering circles) tract from which 1500 cords of pulpwood were cut between April and August last year.

Then there is the Camp LeJeune Marine base near Jacksonville, North Carolina. At times crews supervised directly by International's foresters have cut as much as 700 cords a month there, and as yet they have little more than begun to tackle the thinning and clearing job which the Marines want done on their 65,000 acres of quality pine.

Both Jaenicke and Griffith agree that thinning is the order of the day in the greater portion of their daily contacts with landowners and dealers. An inspection of International's cutting operations in the Georgetown area for 250 miles up and down the coastal pine belt of the Carolinas would confirm essentially the same pattern. Typical is Onslow County in North Carolina with a record of twenty-one tracts cut within recent months. Fifteen of these tractsnearly three fourths - had been thinned, four had been cut to seed trees (leaving at least four good seed trees to the acre), and two had been clear cut.

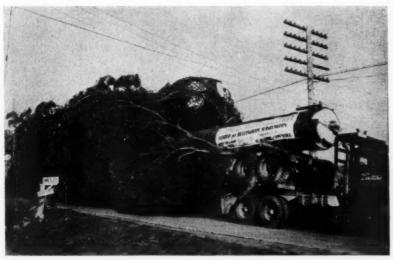
As Colonel McCaffrey points out, it's a mighty big job to supply the Georgetown mill with the some 850,000 cords of wood it uses a year, keeping it coming in an uninterrupted flow despite hazards of weather and transportation. Thus he is not too disturbed that fifteen percent of the pulp cordage comes from land which has been clear cut. Of the rest, ten percent comes from authorized land clearings, twenty-five percent is from cutting according to seed tree specifications, thirty-seven percent is the (Turn to page 40)



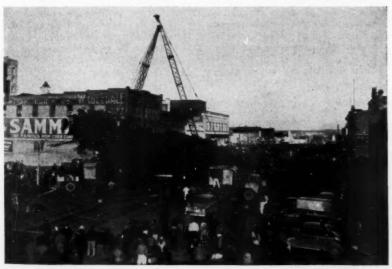
At its most modern pulpwood dock, located on the Cape Fear River at Wilmington,

TALLEST CHRISTMAS TREE

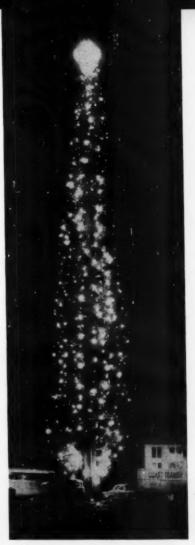
Out in Washington State, the Bellingham Junior Chamber of Commerce set out to erect the world's tallest Christmas tree. They succeeded, too — with a 153-foot Douglasfir



Transporting the giant Douglasfir over highways and streets created quite a spectacle. Truck drivers at either end of the tree communicated by telephone



Cranes helped raise the mammoth Christmas tree to an upright position after it was prepared for illumination and guy wires fastened to hold it steady



Bellingham residents were proud of their 153-foot Christmas tree

BELLINGHAM, Washington, has attracted attention for several years by erecting huge community Christmas trees, but in 1949 the Junior Chamber of Commerce undertook to set up the world's tallest. Thirty-five miles from the city scouts discovered a well-formed 153-foot Douglasfir and the Jaycees immediately launched upon the Herculean task of moving it to their business district.

Volunteer loggers superintended the delicate job of cutting and lowering the tree without damage. Large cranes then loaded it on trucks 100 feet apart, and telephones had to be installed so that the operator in the rear could be told how to drive from his nook underneath the branches. Illuminating and raising the tree also were major undertakings.

But the task was finally completed, and there were none to dispute the claim to the world's tallest yule tree.

Adventuring in Trees and Grass



Here Mr. McKnight, in the fourth of a series of six articles, discloses the first steps in making his woodland at Cornwell Farm in Virginia pull its share of the farm load. This adds up to determining the tree potential, the immediate forest product needs for farm re-development and how best to improve his woodland for the future.

By HENRY T. McKNIGHT

HE natural affinity between grass and tree farming can be illustrated by the comparison between a woodland and a herd of cattle. In handling each of these the idea is to breed and grow younger stock to replace the mature or to cull stock that goes to market. And in each case the wise farmer seeks to upgrade the quality of his stock as he goes along.

Trustworthy publications such as Trees—Yearbook of Agriculture and The American Forestry Association's handy Managing Small Woodlands, point out that on most family-size farms, where more than half of our timber potential is located, the woodlands are still loafing. They are not paying their way in proportion to the rest of the farm.

In redeveloping Cornwell Farm, we are getting our woodlands out of the "loafing" category and putting them back to work as a tree farm in order to pull their share of the farm load. This has been our approach:

1. What is growing in our woodlands? What is the tree potential now and for the future?

2. What are our immediate forestproduct needs for farm redevelopment?

3. Measuring these first two off against each other, how can we best improve our woodlands for the future?

Our own early examinations revealed that the entire woodland area had been timbered off some years ago—but not in accordance with modern forest practices. We found certain well-stocked areas, particularly in a rich bottomland where there is a fine grove of yellow poplar (tulip trees). There was also a good crop of mature pine. The hardwood reproduction areas were doing fairly well, but are in need of thinning. Finally, one area was about to revert to impassable jungle because of the unchecked spreading of honeysuckle and green-brier

Enter now the two heroes of this

piece, Charles J. Witter, assistant district forester, and Marcel Pfalzgraf, county forester, for the Virginia Forest Service. These able technicians have run several surveys of the Cornwell woodlands, not only in order to find the present and future potential but to suggest, in cooperation with us, what future forest practices should be.

What struck me was the very practical approach of my two forestry friends. Sizing me up as a farmer who works in town as well, one of them asked what I thought of an investment paying only two percent interest. I replied that I always tried to do better than that. "Then you'd better cut out your mature pine," he said. "Its rate of growth isn't even two percent any more."

Briefly, their report indicated the present volume as here summarized. All board foot volume data is based on the International quarter-inch rule and represents the volume of one inch boards that could be produced with close utilization.

Present volume, 194,000 board feet
—nearly 72,000 feet in pine, 68,000
feet in yellow poplar (tulip trees),
34,000 feet in oak and 20,000 miscel-

laneous

There were 41,000 feet of mature pine, 30,000 feet of mature hardwoods, 80,000 feet of hardwood poles, 14,000 feet of pine poles and 29,000 feet of hardwood reproduction.

The growth studies showed an annual growth of 8329 board feet and ninety standard cords, and we were warned not to exceed this volume in our annual cutting. However, should our farm building program so require, we could cut as high as 75,194 board feet right now without serious damage. This would mean cutting 604 trees with an average volume of

(Turn to page 38)

Allowed to graze in the woodland, these cattle kept down the honeysuckle. The winter's feed bill was exactly \$49



Qualified foresters surveyed the Cornwell Farm woodlands, and they reported a present volume of 194,000 board feet



88-H . . 99-H . . MASTER "99"

The Power Graders That Have Everything

- V All-Wheel Drive
- V All-Wheel Steer
- V Precision Sideshift
- V Controlled Traction

- V High-Lift Blade
- V Extreme Blade Reach
- V Completely Reversible Blade
- **V** Full Hydraulic Control



1950 13th In-1947 for the-12th Consecutive Year

no other graders will perform so many construction and maintenance jobs so well. Your nearby Austin-Western distributor will be glad to tell you the whole story.

AUSTIN-WESTERN COMPANY, AURORA, ILLINOIS, U.S.A.



Socialized Forestry in Britain



Group of student foresters inspect Alice Holt State Forest near Surrey. Plantation plot pattern can be seen in the background

REAT BRITAIN is embarked

resources. During World War II.

when imports were restricted by enemy action and a lack of shipping

space, the British realized conclusive-

ly that something had to be done to provide a backlog of home-grown

timber to see them through such

emergencies. Never again must the

island country be forced to fell fortysix percent of its total standing tim-

ber as it did between 1939 and war's

J on a long-range plan to strengthen its native timber ing of 1,650,000 acres and the afforesting of 3,000,000. Such a program would result in obtaining at least 5,000,000 acres of productive forests in fifty years' time according to a planting schedule allocated over five periods of ten years each.

In line with this program, state regulation of cutting is being enforced to conserve the standing timber that remains. This is being accomplished by continuing the wartime system of felling licenses, which must be secured from the Board of Trade before a volume over 250 cubic feet of trees above three inches in diameter at breast height can be felled. Furthermore, local planning authorities of the county councils are empowered by the Town and Coun-

Current forestry goal in Great Britain is to grow thirty-five percent of domestic timber needs

By O. C. GOODWIN, JR.

try Planning Act of 1947 to issue "Tree Preservation Orders" to prevent the felling of trees, groups of trees, or woodlands in their area.

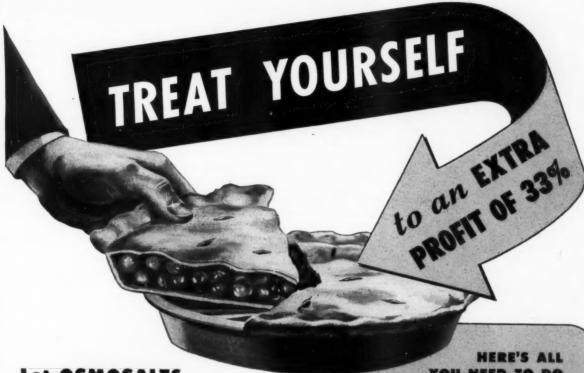
A "Dedication of Woodlands" scheme was proposed by the Forestry Commission in 1943 to encourage the application of systematic forest management to three million acres of private woodlands of which one million acres need replanting. However, by May, 1949 only twelve private estates had been actually dedicated representing approximately 11,000 acres, and deeds in respect of a further thirty estates representing 14,000 acres were in course of preparation. Although it is generally known that a large proportion of the (Turn to page 44)

This bolstering of a dangerously depleted natural resource is in the hands of the Forestry Commission, created in 1919 to establish new forests for the production of timber. Progressing at a leisurely pace prior to the recent world conflict, this organization has now acquired almost one and a half million acres of land, of which one third has been planted and apportioned into 322 forest units. Another 126 thousand acres have been planted on private lands with the aid of Forestry Commission grants and technical advice.

The Forestry Commission estimates that at least fourteen million acres would be required for the country to be fully self-supporting on the present scale of home consumption. However, this would require almost twenty-five percent of the total land area, much of which is more valuable as crop land. In view of this and with an eye to the future, they have proposed a program to produce ultimately approximately thirty-five percent of the nation's current requirements. This will require the re-plant-



Britain's fifty-year plan calls for five million acres of producing forests. This plantation is of Corsican (at left) and Scots pines



Let OSMOSALTS show you how to get up to \$25.00 EXTRA per MBF

Increase your sales! Break into the TREATED WOOD MARKET! You'll not only make extra profit on the additional lumber you'll be able to sell, but you make a PLUS PROFIT on the treating itself. Yes, by treating lumber with Osmosalts you can mark-up your treating costs 49% or gain a gross profit of 33% on the treatment alone. There's an ever-increasing demand for termite and decay resistant wood (especially in the South) and you can cash in on it in your territory. State and County highway departments, mines, railroads, farmers, construction companies, etc., are all good prospects.

Osmosalts is one of the most widely used wood preservatives in the United States, and you need no expensive plant or equipment to apply it to your lumber. An inexpensive dip tank will do the trick or, if you prefer, Osmosalts can be sprayed or brushed on. Osmosalts will treat any species of wood and can be applied by unskilled labor; it has no offensive odor, nor will it smart the eyes or burn the hands of

We have several "protected" territories still open and, if you're interested in getting into this HIGHLY PROFITABLE business, we will train your treating crews, show you how to set up an inexpensive tank, start you off with the right sales approach with the prospects in your area and, of course, furnish you with all the necessary sales literature you will need.



Drop us a line on your company letterhead and let us tell you ALL the profitable details of how you can get up to \$25.00 EXTRA per MBF.

OSMOSE,

WOOD PRESERVING COMPANY OF AMERICA, INC.

1437 BAILEY AVENUE

BUFFALO 12, N. Y.



CRUISER COMPASS

Precision-made and beautifully finished, the LEUPOLD CRUISER COMPASS is a precision instrument...the best money can buy. AN EXCLUSIVE FEATURE of the LEUPOLD CRUISER COMPASS is declination easily set off by using a coin or knife in slotted end of pinion gear. Gold-plated, rust proof needle is mounted on a ground agate jewel. Needle is locked when cover is closed. For accurate, pin point sighting the LEUPOLD CRUISER COMPASS (pocket size) has maximum size dial. Dimensions: 3 ½-in. x 3 ¾-in. overall. Send for the LEUPOLD CRUISER COMPASS, a precise instrument you will be proud to own.

SPORTSMAN COMPASS

Ruggedly built for a lifetime of service the LEUPOLD SPORTSMAN COMPASS is a valuable aid to every hunter, fisherman and outdoorsman. Features: gold-plated, rust-proof needle mounted on agate jewel with sighting line, township plat. Order now! Send for FREE booklet: "Compass Guide."

	Send	for	FREE	booklet:	"Compass	Guide.
Ple	The Li mor The LE	EUPC ley b	oLD Cloack g	RUISER CO	OMPASS with \$12.7 AN) COMPAS \$7.5	'5 postpai
	me	_				
Cit	v				State	

Write to LEUPOLD STEVENS INSTRUMENTS, Inc-4445 N.E. Glisan Street Portland 13, Oregon

CONSERVATION IN CONGRESS

By JAMES B. CRAIG

The Cooperative Forest Management Act (H.R. 7155) to provide technical aid to private woodland owners and processors by transferring the Norris-Doxey function to a separate measure with the present authorization of \$2,500,000 extended to non-farm lands, was reported out March 6 by Congressman W. K. Granger's sub-committee of the House Agricultural Committee.

The bill now goes to the full committee. Prior to this action representatives of various interested groups including the lumber and pulpwood industries, private groups and state and federal forestry personnel indicated that, with some reservations, they are in accord with the provisions of the bill.

Introduced by Congressman Robert L. F. Sikes, of Florida, "as a small but important step in putting our forest household in order," the measure is the outgrowth of Senate action at the last session of Congress in eliminating Section 4 of the Granger Bill providing technical forestry service for landowners. The Senate scrapped this section when fear was expressed that it could lead to federal control of forest practices on privately-owned land.

This same fear was expressed again this year, chiefly by lumber concerns, when the first of two Sikes-authored bills, H.R. 6741, was introduced. With opponents pointing out that the intent and purpose of this bill were not clearly defined, Congressman Sikes stated he requested Joseph F. Kaylor, president of the Association of State Foresters, to contact representatives of the lumber and pulp and paper industries and the U.S. Forest Service to see if an acceptable bill could be worked out.

Kaylor returned with delegates from these groups and "suggested some changes that I was glad to make in the interest of obtaining the full cooperation of everyone involved," Sikes told the committee on March 6. Subsequently he introduced H.R. 7155 which included the desired changes.

Under H.R. 7155 apportionment of the \$2,500,000 would be determined by the Secretary of Agriculture after consultation with a national board of not less than five state foresters. In allocating funds to the respective states, money would be advanced according to a matching plan worked out by the Secretary and the state forester of each state concerned.

"This bill does not increase the present authorization of \$2,500,000 for such work but does broaden the basis of distribution, is that correct?" Chairman Granger asked at the hearings.

ings.
"That is correct," Congressman
Sikes replied.

The Congressman then told the committee "this is a cooperative forestry enterprise in which the states would administer the work," adding that there was no possibility of any tie in between the service work proposed and federal regulation, something he has always opposed.

President Kaylor, speaking for the Association of State Foresters, in referring to the regulation angle, said "a great many foresters believe the guidance program we are proposing under H.R. 7155 will avoid the need for forest regulation legislation."

Perry H. Merrill, chairman of the Association's legislative committee, reported that all except four state foresters in the United States were behind the bill and that the four dissenters were not opposed to the entire bill but merely suggested proposed amendments. Both Kaylor and Merrill said a combined Federal, state and local effort such as is proposed in this bill could bring about a new outlook on forest values in private land in a few years.

Speaking for the National Lumber Manufacturers Association, Executive Vice-President R. A. Colgan, Jr., recommended the passage of H.R. 7155 and its enactment into law.

"While we have been unable to get complete agreement, the bill meets the basic objectives of all concerned and generally covers the recommended methods for accomplishing these objectives," Mr. Colgan said. "However, we think that the record should show that the purpose of this legislation is to encourage the expansion of state activities that are now under way in a great many states, and to stimulate other states to establish programs. We further believe that your report should clearly emphasize that the states and individual



... Steps up production!

Keeps all your forces pulling together in one smooth action. Keeps expensive equipment in peak production with other inter-dependent units, by eliminating costly waiting, shortening stoppages and dead-mileage. Reports are proving its efficiency in cutting, snaking, loading, and scores of other applications. It pays for itself in other ways too -as a morale-building safety factor, getting over the bad spots, it lets a man know when and what to do in relation to the entire operation.

COMMUNICATION

Only Motorola makes the

"Handie-Talkie" Radiophone!

2-Way Radio System at the Best Buy!

Motorola's factory engineers are immediately available to help you plan the best application to your operations—to meet your present and growing needs-plans you can fully rely upon to protect your investment for many years to come. By providing "tomorrow's equipment today," Motorola's systems designing gives you consistently finer performance at the lowest over-all cost, in a tough, durable package, and protects against obsolescence in the future.

Your request for planning your own special application will be promptly and courteously treated by the WORLD'S LARGEST LABORATORIES DEVOTED EXCLUSIVELY TO MOBILE RADIO COMMUNICATION SYSTEMS

in Canada: Rogers Majestic Ltd., Toronto



The Compass-Theodolite

AN INSTRUMENT ESPECIALLY DE-SIGNED AND CONSTRUCTED FOR FORESTRY ENGINEERING WORK

The forest rangers' frequent technical tasks often require the use of surveying instruments. These instruments may be simple in design and manipulation but they should be capable of accuracy to insure reliable results. The WILD TO is a dependable, precision instrument. The WILD TO is the ideal, time-saving, up-to-date instrument that is not only a Transit but can also be used for preliminary Leveling Work.

HENKY WILD

SURVEYING INSTRUMENTS SUPPLY CO.

OF AMERICA, INC.

26 COURT ST., BROOKLYN 2, N. Y. TRiangle 5-0644

forest landowners, in time, will be expected to accept this responsibility and pay for it so that federal aid may finally be withdrawn."

Fred Morrell, representing the American Pulp and Paper Association, said his group was not taking any position, either for or against the measure, but had been concerned from the beginning in "how" the bill was to be carried out.

"Do you have any objections to the bill as it now stands?" Chairman Granger asked.

"No, sir," Morrell replied-

Paul Schoen, executive secretary of the Forest Farmers Association, urged the enactment of the bill and lauded the fact that "everybody seems to be together on this which was hardly the case last year."

A. G. Hall and Robert Moore, representing the Association of Consulting Foresters asked some assurance that consultants would benefit under the act. Hall urged the adoption of a provision stipulating that the authorities conferred under the act be used "essentially on those areas where the economy of the woodlands does not warrant the employment of private consulting foresters by woodland owners." Moore asked that the word "small" in connection with the phrase "woodland owners" be included in the bill. No action was taken on these proposals.

R. E. McArdle, assistant chief of the U. S. Forest Service, was next called by Chairman Granger. When members of the committee evinced interest in how the plan to aid specific states was to be worked out by the Secretary and the board of state foresters, McArdle said that factors to be determined include: the extent of federal financial participation in any given state; how the work is to be done; an agreement that competent technicians will handle the work; standards covering the extent of the assistance to be given landowners

without charge; what precautions are to be taken to avoid competition with private foresters; and the extent and character of the services to be provided by the federal government.

The Bureau of the Budget, the appropriations committee and the state foresters themselves would serve as checks in the allocation of these funds, McArdle said, pointing out that money could not be advanced to any state until a plan of action was agreed upon in advance.

Like other state and federal witnesses called, McArdle said that the present authorization is not enough to do the job that has to be done, that a figure of six million dollars would be more in line with the effort required to open up the field. Congressman Sikes called the present amount "woefully small" but said later that the present temper of Congress is such that it was thought wise to hold down the authorization McArdle, Kaylor, George Fuller, of the National Lumberman's Association, and others who had a hand in shaping the bill all concurred.

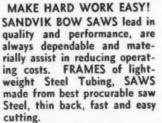
McArdle agreed with the committee that the amount needed to do a good job would in due course taper off but said candidly that he could not see that coming any time in the near future. Congressman Sikes in his remarks had said there are four-and-a-quarter million farm and other small woodland owners and fifty thousand small processors of primary forest products who need this help. Together, these small woodland owners control three-fourths of all private commercial forest land.

A movement on Capitol Hill to re-establish the Civilian Conservation Corps is getting into gear at this session with three bills introduced in the House and one in the Senate calling for legislation that would provide for 500 thousand young men who were reported unemployed as of November, 1949.

On February 28, Senator James E. Murray, of Montana, introduced S. 3144 to re-establish the Corps—to provide for the "conservation of natural resources and the development of human resources through the employment of youthful citizens in the performance of useful work, including job training and instruction on good work habits."

Companion bills have been introduced in the House by Mrs. Helen Gahagan Douglas, of California—H.R. 7463; Mrs. Reva B. Bosone, of Utah—H.R. 7462; and John A. Blatnik, of Minnesota—H.R. 7532.





Send for Descriptive Folder

Sandvik Saw & Tool Corporation 47 WARREN ST. NEW YORK (7) N. Y.



Wildlife Values

(From page 21)

region. Sometimes this is the result of a change in the economic values involved, but in other instances there is only a change in dominance of the human groups that hold conflicting views about the values that

the animals possess.

To include waterfowl in the category of creatures whose popular classification with respect to value is uncertain may cause some surprise, but I suggest that if our waterfowl are not yet in that category they are approaching it. This situation is a result of the expansion and the increased intensiveness of agriculture, which, in turn, is due to the present rapid increase in the human population of the world.

Wherever interest is focused on wildlife, it is apt to be taken for granted that ducks and geese have a high and incontestable positive value, but that is not the view of the wheat farmer who has thousands of dollars' worth of grain eaten or rendered unharvestable by mallards, nor of the beet farmer whose young plants are consumed by widgeon. It seems to me that negative values of waterfowl are being felt more sharply by increasing numbers of people. And the time may not be far distant when the people who regard waterfowl as pests may gain the upper hand, at least in some inportant regions, which will enormously increase the difficulties of those who assign predominantly positive values to these pirds.

The first step in dealing with wildlife problems that involve reconciliation of conflicting economic values is painstaking scientific investigation. It may be evident that we do not have, in precise and usable form, enough detailed information about the values of the creatures with which we are dealing to enable us to form conclusions that are satisfactory as a basis for action, or we may suspect that some of our presumed knowledge is incorrect. In any event, it is well to give careful scientific examination to the whole subject, with a view to forming a sound judgment and convincing others. Honest acceptance of the data thus obtained may result in a marked change in our attitude and our practices and for that we must be prepared.

In most cases in which the existence of values that conflict to a serious degree is demonstrated, there must be devised and followed a policy that will make suitable adjustment, giving to each value the



"If It's Remington-It's Right!"





PRESERVE THOSE AGE-OLD TREES

Let us send you our Catalog showing a complete line of TREE BRACING MATERIALS AND TREE TRIMMING TOOLS.



Many of the largest estates in and Canada have their work done with BARTLETT BARTLETT TREE TOOLS and supplies.

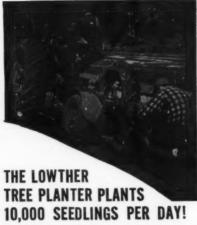
Our TREE PAINT is universally used after PRUNING for destroying and preventing the growth wood destroying fungi.



A quality line covering complete requirements

Bartlett Mfg. Company

3019 E. Grand Blvd. DETROIT 2, MICH.



With the Lowther Tree Planter, trees are properly planted for maximum survival in any soil because they have been given the right start.

Users all across the country report tremendous savings over hand labor.

For details write:

THE HARRY A. LOWTHER COMPANY INDUSTRY AVE., JOLIET, ILL.

By The Makers Of The Famous Lowther C-Saw

respect that is due it. The policy must be sufficiently flexible to be capable of modification when there are changes in the values on which it is based. As a result of a sufficient fall in the market value of the pelt of an animal its category may change from that of a creature that is primarily a furbearer requiring protection to that of a creature that is primarily a predator requiring close control and the policy toward that animal must reflect such a change.

Extermination in most cases and over-population in all cases should be avoided.

Another class of conflict between values occurs when a species has, on the one hand, pronounced negative economic values, and, on the other hand, great positive inherent esthetic values. The peregrine falcon or duck hawk is probably a suitable example, at least in many regions. It consumes numerous useful game birds and insectivorous birds and produces little in the way of economic benefits, vet it pleases and satisfies many people by its swift and spirited flight and its noble bearing.

Not infrequently we find people trying to reach a conclusion with respect to such a creature by a direct comparison of its economic value and its inherent value. No matter, they may say, what values this creature destroys, for to us the pleasure of watching it is worth far more than that. The difficulty here arises from the attempt to compare concepts which, although they are both expressed in our language by the word "value," are actually in very different categories, with no common standard of measurement, and which therefore afford no ground for comparison. This difficulty is of the same kind as the one that would arise if you were asked what value of material commodities you would accept in exchange for your character. Like human character, the esthetic values that we find in a swift bird of prey. a majestic lion or a primeval forest, are not exchangeable and are therefore not to be measured in terms of exchangeable goods.

I am sure there is full agreement that our conceptions of wildlife values are fundamental. It is therefore of the utmost importance that we should deliberately and constantly develop and revise, with diligence, intelligence and honesty, our estimates of those values. We may try, and in many cases we should try, to impart those estimates to others. We may as well realize, however, that few, if any, of them will become universal.





Above—Hale Type HPZZ is easily portable by two men. Both the HPZZ and FZZ can be mounted or carried on any type of truck for fighting fire while in motion, using booster tank for source of water.

Not shown—Hale Portable Type FZZ, the Forester's workhorse, pumps from draft 60 G.P.M. at 90 lbs. up to 150 G.P.M. at

200 POUNDS PRESSURE!

Shown in action above is the Hale Portable Type HPZZ - companion "workhorse" to the popular portable Hale Type FZZ fire pumping unit.

Like the FZZ, the Type HPZZ can be carried easily by two men. It will supply an effective fire stream to fires-as far as a mile from the pump—through $1\frac{1}{2}$ " hose and 5/16" nozzle. Pumps from draft 15 U.S. GPM at 200 lbs., up to 50 U.S. GPM at 100 lbs.

Both the HPZZ and the FZZ are available in Frame, on wheels or on rubber insulated steel channels.

Write today for literature on Hale Fire Pumping Units. Let us know if you want a demonstration

FIRE PUMP COMPANY CONSHOHOCKEN, PA.

hlade edges of TEM-CROSS Steel **GUARANTEED** NOT TO SPLIT OR CURL

Only INGERSOLL Shovels, Spades and Scoops with blades of TEM-CROSS Steel carry that strong guarantee. TEM-CROSS is Ingersoll's own super-tough steel that's cross-rolled and scientifically heat-treated to prevent splitting and curling.

So take a tip—for GUARANTEED satisfaction in shovels, spades and scoops—for steel blade edges that WON'T split or curl—

SPECIFY INGERSULLS EVERY

Certain Models of INGERSOLL Shovels are available with aluminum blades.

INGERSOLL STEEL DIVISION

BORG-WARNER CORPORATION

New Castle, Indiana

Plants: New Castle, Indiana • Chicago, Illinois Kalamazoo, Michigan



th



NEW AIRCOOLED MODEL S-Choice of ume up to 36 g.p.m. or pressure up to 325 p.s.i. Weight approximately 85 lbs.

WRITE FOR SUGGESTIONS on application of portable equipment to your fire protection problem, with full specifications on appropriate models of the Pacific Pumper. No obligation.

ACCESSORIES, TOO! A complete line of hose, nozzles and other equipment and accessories used with portable pumpers. Ask for catalog.



FREE HAND HOIST



SEND FOR IT TODAY

IN A DETAILED 4-page folder now available, Beece Bros. tells the complete story about the 2-, 5-, and 15-ton unbreakable Beebe Hand Holsts. As the strongest geared power for their weight in the world, these trouble-free hoists serve a multitude

The bulletin includes detailed specifications, costs, performance features, and installation data on a wide range of hand hoist requirements. Special power hoist data included, too. Send today for your free copy.

BEEBE BROS.

2728 6th Ave. So., Seattle 4, Wash.

Fire Danger Meter

(From page 13)

rating is that picture conditioned by the twin facts that fires will grow larger before being spotted when the visibility is low, and that probability of fires occurring is greater when there is severe lightning.

When burning indexes are dangerously high, the public is often warned

"Smokey" Makes



Sixth grade pupils at Baltimore, Maryland's School 234 came up with some interesting comments when their teacher. Mrs. Floyd Faulkner, asked them to write their reactions to "Forest Fire, A True Story of Our Forests"—the latest publication of The American Forestry Association.

Commenting on the story renated by "Smokey," the fire preventing bear, Bobby Barnes wrote, "Being a regular comic book reader myself, I am very glad to see "Smokey" getting into education."

Calvin Hoffeld wrote, "I first met 'Smokey' in a trolley car poster and I am glad to see him in a book."

through radio and newspaper. If the index rises to seventy or seventy-five in a forested area of rugged topography with much slash and debris, that area even may be closed to logging and public travel until the danger subsides. On the other hand, an index of seventy or seventy-five on an accessible and debris-less forest would mean precautionary only; the forest would probably not be closed until the index went higher.

Forest fire danger meters, developed from Gisborne's original, provide a method of describing conditions accurately and uniformly. They have paid for their development many times over by preventing too-timid forest officers from spending an excess of money on their fire control organization, and others-more rash -from spending too little.

CONSULTING FORESTERS

When in need of the services of a Consulting Forester, members and friends of the Association are urged to write the following for complete information. Other Consulting Foresters are invited to write us for advertising rates in this Department.

FOREST PROPERTY

Estimates — Appraisals — Management

PRENTISS & CARLISLE CO.. INC.

107 COURT STREET BANGOR, MAINE

FORESTRY CONSULTANTS

Management • Acquisition
Marketing • Conservation
Cruising • Throughout
the South

T. M. HOWERTON, JR. Madison, Florida

WILLIAM T. COX

Consulting Forester-Biologist

Examination of wild lands. Advice on timber and wildlife properties and problems in the United States, Canada and Latin America. OFFICE:

2186 DOSWELL AVE., ST. PAUL 8, MINN.

Mississippi Delta Managing Hardwood

Gulf States
Managing So. Pine

KEITH CRANSTON

Timber Estimating Services Mississippi COUNSEL FOR

PRIVATE LANDOWNERS

FORESTRY CONSULTING

SERVICES
FOREST MANAGEMENT
FOREST PRODUCTS
WATERSHED MANAGEMENT HARVEY J. LOUGHEAD

15 EAST FOREST ROAD, BILTMORE STATION
ASHEVILLE, N. C.

TREE PLANTING BARS

Used bars from CCC surplus stocks, some like new, genuine tool steel blades. Supply very limited.

3 for \$10.00 \$4.00 each PORESTRY ASSOCIATES, INC. Michigan

REFORESTATOR Mechanical Tree Planter



Manufactured by W. MERIAM CO. Elsie, Michigan

Federal Lands

(From page 17)

an aggressive policy?"

Finally, we are being asked: "Will this merger not mean that large areas of land will be 'roped off' by the Forest Service, so that they will no longer be available to stockmen who earn their living from this land?"

These are all peripheral questions. The Hoover Commission was not

concerned with them.

To all of these questions our answer is "Not under the Hoover recommendations." Those who ask such leading questions are doing so in the thought that the Hoover Commission supplied the answers to such matters of congressional policy. This it did not do.

The simple act of transferring Land Management to Agriculture does not affect any one of these problems one way or the other. Congress will have to be the arbiter in changing the underlying policy statutes.

Efforts to change the Taylor Grazing Act and other policy statutes have been made in the past. We can scarcely expect that suddenly a dearth in such efforts will appear. Hence, Congress will, almost certainly, be asked to face up to them in the future, regardless of whether the type of organization recommended by the Hoover Commission is put through or not.

The Taylor Grazing Act, the percentage of contributions to local authorities, the pluses and the minuses of conservation, these are all peripheral questions. The Hoover Commission was not, and the Citizens Committee is not, concerned with them.

The Citizens Committee intends to stress the irrelevancy of such prob-

The deliberations of the Hoover Commission prior to the making of its decision are not publicly recorded, and perhaps never will be. Regardless, a strong measure of logic can be ascribed to its determinations.

1. Mergers of duplicative operations almost always submerge the agency which is moved into an established department from the outside. Those situated beforehand in the locus operandi usually have a head start in the scramble for preferment. Furthermore, the natural resistance of the outside agency to the merger usually makes its leaders anathema to their new superiors. The present Civil Service System does not simplify the problem either. A fairly fundamental

(Turn to page 41)





Si, si, si, chico! Riding one of Santa Fe's great fleet of fine trains is certainly the way to see that romantic Southwest of yours. Santa Fe trains are famous for comfort and room to move around.

move around...for a wonderful choice of fine
Fred Harvey meals...for dependable on-time schedules,
regardless of weather...for arriving right downtown.
Yes, traveler, figure it out—you'll go Santa Fe—all the way!

Santa

BERTHALLES PROPERTIES PROPERTIES

For Information, just phone any Santa Fe office or consult your local travel or ticket agent, or write R. T. Anderson, General Passenger Traffic Manager, Santa Fe System Lines, Chicago 4

DISSTON_® CHAIN SAWS

can save



This BIG 36-page Book
TELLS YOU HOW

- ...TO BUY
- ...TO USE
- ...TO PROFIT FROM CHAIN SAWS

IT'S FREE!

Send for your copy now. Simply fill in coupon and mail it today.

HENRY DISSTON & SONS, INC.

479 Tacony, Philadelphia 35, Pa., U. S. A. In Canada, write: 2-20 Frasar Ava., Toronto 3, Ont.

Man	REGULFATORE
	ry Disston & Sons, Inc. (Adv. Dept. Tacony, Philadelphia 35, Pa., U.S.A
	tlemen:
	uld like very much to have a free copy
Mon	our book "How To Cut Costs and Make ey with Chain Saws."
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	· , •
Non	ne
Con	npany
Stra	et
City	State
88.4	occupation is

Adventuring in Trees and Grass

(From page 26)

124 board feet a tree. The Virginia Forest Service marked the trees for cutting at a cost of \$26.32.

With the timber potential clearly defined we were then ready to fit our building needs to it.

What's the best barn for our Angus herd? During our first winter, a mild one by local standards, we are getting by with no barn at all. And so we are leery of the deluxe "monument to the herd" type of barn that grandfather used to build. All the Angus ask is shelter in nasty weather and plenty to eat. All we ask are simple plans for an efficient building, easy to erect at low cost. A careful search for such a structure eventually led us to the Doane Agricultural Service in St. Louis. From the Farm Journal we discovered that these people look at farm buildings not as monuments but as time and laborsaving tools, designed to be low enough in cost so that the cattle can pay for them and still make a profit. And the labor-saving features of construction and cattle feeding in this pole-type structure ought to appeal to every front porch farmer. For a fifty-two-foot barn, designed for from forty to fifty beef cattle, all that is required is 6333 board feet. The plans give the exact number and sizes of all the lumber required. The Doane machinery shed is similarly cheap and simple to erect. It requires 3972 board feet, bringing the total for our farm building program to 10,305.

We also require lumber for hay racks, board fencing and other incidentals. Another 1000 board feet should do the trick. Add to this the 274 locust fenceposts we have already cut, and you have our total 1950 requirements. This is a far cry from

the allowable 75,149 board feet which the Forest Service okayed for cutting.

This surprisingly low board-foot requirement for the building program leaves us with a much brighter picture as regards selling whatever timber remains to be cut.

With the tree farm potential and the forest product requirements in view, we can now concentrate on improving our stand. In their first report the foresters recommended turning cattle into part of the woodlands as an experiment in finding a honeysuckle deterrent, possibly an eliminator.

Upon recommendation of the foresters, and with their assistance, we intend to replace the cut-out trees with higher grade seedlings, mostly loblolly and short-leaf pine. A West Coast friend has offered us some Douglasfir and Port Orchard cedar seedlings, and we will experiment with these to determine their suitability to our area and climate. Other studies will be for insect control, location of fire roads and better fire protection in general. By next winter we will be ready for another cutting, and most of this one will go to the market to help out the farm's general income.

A word of warning to tree farmers. Watch out for would-be timber buyers who threaten urgency in cutting your timber. As one told us, "Don't know who knows more about trees, me or the forestry guys, but I say your pine's got worms and it's got to come out while there's still something left of it."

Personally, we'll stick with the "forestry guys"—and with their help we'll hope for a woodland that will provide sustained enjoyment and profit for years to come.

Exploring Our National Parks



By Devereux Butcher

This is the perfect book to help you plan your summer vacation trip. Describes the 26 national parks and 38 nature monuments. In 224 pages there are 227 magnificent photographs of the parks' scenery, animals, birds, wild flowers, geysers, waterfalls, cinder cones and lava fields. Tells how to go there by bus, train and auto, where to stay and how to get the most fun from visiting the parks. This is the standard, most authoritative and up-to-date book on the subject. Order your copy of this beautiful book,

National Parks Association, 1214 16th St., N. W., Washington 6, D. C. Box 45F.

☐ Paper-bound \$2.00 ☐ Cloth-bound \$3.50

Name

and one for your friends, by filling in and mailing the coupon with your check today.





IT'S EASY TO CARRY—weighs only 44 pounds. The case is only 19%" long, 10%" high, and 9%" deep.



IT CAN BE SET UP ANY PLACE where there's a 115-volt, a-c supply—forestry, utilities, construction projects, etc.



IT'S IDEAL for 2-way operation (police, fire, etc.) in small and medium-size municipalities requiring medium-range communication equipment.

For portable or fixed station use

... the RCA Carfone Station Unit "15"

THIS is the most versatile 2-way radio station ever designed for medium-range communication. It is complete with transmitter, receiver, power supply, portable antenna, handy microphone, and loud speaker—all in a single package.

Easy to carry and easy to set up, this portable unit can be operated wherever there is a 115-volt, a-c outlet.

For fixed station use, place the unit on the operating desk, hook-up the antenna, plug in the power cord, and you're set to go. For portable station use, simply connect the quarter-wave, whip antenna (supplied) and plug in the power cord. No extra components to carry around. No installation expense involved.

Greatly improved receiver selectivity reduces adjacent channel signals well below interference levels. A newly-designed transmitter modulation control enables you to transmit the full signal potential of the transmitter and maintain 100 per cent modulation at virtually all voice levels — whether you shout or whisper into the microphone.

For complete information on the new RCA Carfone Station Unit "15", write Dept. 121D, RCA Engineering Products, Camden, New Jersey.



MOBILE COMMUNICATIONS SECTION
RADIO CORPORATION OF AMERICA
ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N. J.

In Canada: RCA VICTOR Company Limited, Mantreal

The "LEAF" that protects the tree

Black beaf 40

Black Leaf 40, used as a spray for trees and shrubs for the control of most sucking insects, has been the standby of tree experts and horticulturists for generations. It's double acting—kills by contact and by fumes. Spares friendly insects that help in pest control. Highly compatible with other insecticides and fungicides when used in combination sprays.

FREE 20-page booklet on the control of insects on shade trees and ornamental plants will be mailed to you on request.

Tobacco By-Products & Chemical Corporation, Richmond, Va.

FLY FRONT JACKET FOR U. S. FOREST SERVICE

PERSONNEL

Made of the Regulation Forest Service Fabrics. Lined or Unlined Concealed at page of the Concealed at page of the Concealed and the Concealed and Concealed and

Write for New Price List and Sample Fabrics.

THE FECHHEIMER BROS. CO.

Uniforms for Over 65 Years
I CINCINNATI 2 OHIO

ABOUT TIME TO ORDER !!! NEW CROP VERMONT MAPLE SYRUP

Gallon, \$7.50; Half-Gallon, \$4; Quart, \$2.25 Any Postoffice in U.S.A. FOUR SPRINGS FARM

DANVILLE, VERMONT

Neighborly Forestry

(From page 24)

result of partial cutting or thinning, and thirteen percent is from salvage or tree top operations.

McCaffrey, of course, will not be satisfied so long as any land is being clear cut when it should be dedicated to growing another crop of trees. International was the first cooperator to sign with the Southern Pulpwood Conservation Association, and McCaffrey wishes to make certain the company fulfills its commitments as conscientiously as possible.

These include the cutting of the company's own forest lands and those of others so as to maintain and build up the forest growing stock; getting full compliance of wood producers to follow the same cutting procedures; and cooperating with federal and state agencies. The company's forty-two foresters in the Georgetown area—be they conservation foresters, district superintendents, district foresters, forest engineers or engaged in wood production—are working toward that goal.

While it is true that the company is dependent on privately owned woodland for eighty-five percent of its raw material, McCaffrey also insists that International's own forest lands be as intensely managed as is humanly possible. The goal, of course, is maximum growth on every acre. Where natural reproduction lags, the insufficiently stocked acres are planted with nursery grown seed-

lings. With the help of four planting machines, about six million loblolly and slash are planted each year in the Georgetown territory. "Our own lands must set an example if we expect good woodland management from others," McCaffrey believes.

International's timber holdings in the Georgetown area alone now total roughly 600,000 acres, and it is surprising to learn that at the present rate of acquisition the investment in company timberland will equal the investment in the plant within ten to fifteen years.

Also indicative of more amicable relations with the once extremely jealous lumbermen is the revelation that in the past twelve years International's lands have yielded a billion feet of timber sold to sawmills. Substantial quantities of cross ties, poles and pilings have also been sold. while a number of tracts have been leased for naval stores. Lately the trend has been to trade sawlogs for pulpwood, an exchange which benefits both. All these overtures, Mc-Caffrey points out, are doing much to break down the barrier which was once so formidable between sawlog and pulp interests.

McCaffrey's is one of the more interesting and complex forestry jobs in the South. He moves easily through a myriad of tasks like a busy ringmaster, a pace to which he became conditioned through service in both world wars. He served with the 20th Engineers (Forestry) in the first world war and as commanding officer of the 1002nd Engineer Forestry Battalion in World War II, ending up in Manila. He still keeps his colonel's commission in force as an active member of the organized Army reserve.

A graduate of New York State Ranger School and subsequently of the New York State College of Forestry, he is more deeply steeped in the forestry problems of the South than a native Carolinian. He can cite countless incidents of progress during twenty-five years spent in the piney woods of Dixie. Currently, besides keeping the Georgetown mill supplied with wood and overseeing the company's conservation program, he is responsible for a program of acquiring new forest lands, for timber sales, tax payments, fire prevention and suppression and scores of other details.



Come to Cool

CRESTMONT INN

For a vacation filled with fun, bring the family to this hospitable inn high in the seenic Alleghenies. Enjoy happy days on rolling fairways. Ride or hike over inviting pine-scented paths. Play tennis on championship courts—or, if you prefer, loll in sunny contentment on wide lawns or beaches that rim the lovely Lake of Eagles.

OPENS JUNE 15

At Crestmont the "gracious way of life" is a tradition. Unexcelled food and courteous service . . . congenial, conservative people like your friends at home . . . and most important—peacefulness that invites rest and relaxation. No mosquitoes. Playground with kindergarten.

Write for folder.

The CRESTMONT INN, Eagles Mere, Pa. W. T. Dickerson, President

Certainly there aren't many foresters who have to worry when hurricane warnings are posted along the East Coast. This maritime hazard is one of McCaffrey's extra headaches acquired as a result of International's using the Atlantic coast's inland waterway for transporting pulpwood by barges. With the Georgetown mill and so much of the area from which it buys wood located along the intracoastal waterways, the company has built up a system of barge transportation which accounts for the delivery to Georgetown of a quarter million cords a year.

Eleven strategically located loading docks, five of them equipped with mechanical loading aids, stretch out along the waterway for approximately 250 miles-from Georgetown up to Core Creek near Beauford, North Carolina. The largest and most modern dock is on the Cape Fear River at Wilmington, North Carolina, where a huge gantry crane unloads a truckload of wood in one swoop and deposits it neatly on a waiting barge. Each barge carries a load of 225 to 250 cords of pulpwood, and International has thirtyseven such craft in service. Usually four barges at a time are plied to the mill by a single tug, of which the company has four.

This unique system of pulpwood transportation was inaugurated before the war when a careful study of southern pine's growth and drain rates assured a steady and continuous supply from the area which would be served by barge. It has been expanded since the war, but as yet trucks and railroads still haul the greater volume. A boon to trucking was the development by Tom Busch, McCaffery's inventive and highly capable assistant, of special trailers which are distributed through the woods for loading by farmers and producers. The trailers, capable of hauling six to eight cords, are then picked up by diesel truck-tractors owned and operated by International.

But there's no escaping the fact that long hauls, except possibly by barge, make the cost of pulpwood delivered at the mill prohibitive. International-and the other pulp millsmust get wood close by, and the only hope of attaining such a goal is to make sure the landowners keep their forests productive. What better reason for joining in a campaign to improve forest practices in the South?

Federal Lands

(From page 37)

precept can be drawn therefrom: Whenever possible the agency with a fine long-term record of accomplishment should be the base of the merger and not the moving part. (This is not intended to reflect on the Bureau of Land Management staff.)

2. The Forest Service operates on a nationwide basis and hence has had far broader experience in technical and administrative matters.

3. The problem of continuing or increasing the usefulness of range lands is primarily agricultural.

4. Soil, seed and forest research are all centered in agriculture; most of them will continue there; and it is upon these skills that the future productive value of federally-owned land will be founded.

5. Most commercial timber land is owned by farmers or is in other small parcels, and much, if not most, grazing land is rancher-owned. Why, therefore, should these private citizens be serviced by two federal agencies, when one could do it just as well?

These are all telling reasons. They prove the point.

The issue is about to be joined. The fingers of practicality and logic appear to point in one direction. If we fail to follow the Hoover Commission's lead, we may never get unification of federally-owned land.

Champion Portable Fire Pumps



DARLEY ENGINEERING BRINGS YOU MORE WATER and HIGHER PRESSURES with NEW LIGHTWEIGHT PORTABLES.

In designing these Pumpers Darley engineers have blended the power requirements of the Champion Centrifugal pumps with the power and speed characteristics of the Briggs and Stratton

speed characteristics of the Briggs and Straton gasoline engines. Automatic Primer. Champion Portable Pumpers, being centrifugals, will handle without injury, water with sand, dira-more content. Model No. 1/2AE.—Weight 57 lbs. Dimensions: width 12 inches, length 16% inches, height 16

Capacity up to 40 gallons per minute. Pres-ires up to 75 lbs.

res up to 75 lbs.

Model No. 4AE—Weight 115 lbs. Dimensions:
dth 18½ inches, length 19 inches, height 20

inches.

Capacity up to 200 gallons per minute. Pressures up to 75 lbs.

Madel No. 7AE—Weight 150 lbs. Dimensions:
width 19 inches, length 21 inches, height 22

inches.

Capacity up to 300 galions per minuts. Pressures up to 80 lbs.

Write for specifications and low prices on the complete 1950 line of Champion Portables.

W. S. DARLEY & CO., CHICAGO 12 Manufacturers of Champion Fire Pumps Champion Fire Apparatus



CHINESE, ENGLISH & AMERICAN

22 English Varieties Hardy Named Stock
Send for FREE CATALOG
The WILMAT HOLLY CO.
Bex 304-D NARBERTH, PA.

WATER AT \$3 TO \$5 PER GALLON

That is what some Foresters figure the cost of water hauled aboard a Tank Truck for use on Forest Fires. Regardless of unit costs it should be conserved and used judiciously.

We manufacture pumps designed and recommended specifically and exclusively for taking water from a Tank Truck and making the most effective use of it on a Forest Fire. Our pumps were not designed for some other purpose and adapted to this service. They are designed for doing this specific job most effectively.

We pioneered in the use of Power Pumps on Tank Trucks for Forest Fire Control. During the past 17 years we have worked at nothing else. We will be glad to send complete information.

Ask for Green Circular

PANAMA PUMP COMPANY, Hattiesburg, Mississippi, USA

fo

in

oa

sti

pr

m

of

co

ha

tr

sk

ar

to

la

B

th

Bean's Tackle Bag

A practical tackle contains of our own manufacture to use on weekend trips. This bag is made of This bag is made of water repellent duck with two leather handles. It has two outside zipper pockets, one on each side, size 7" x 14", for extra line, le ad ers, hooks, spoons, fly case, etc., with room inside for carrying extra reel, fishing shirt, lunch, ginger ale, etc. Size 16½" x 7" bottom, 11" high. Zipper opening. Price \$6.95 postpaid, includes 20% Luggage Tax. Send for New Lu, L. Bean, Inc. 80 Main St. Burning St.

In Bean, Inc. 80 Main St. Freeport, Maine
Mfrs. Fishing and Camping Specialties

SOUTHERN GLO TIMBER MARKING PAINT

White - Yellow - Red - Blue Prices on these colors for immediate shipment.

Paste in 5 gallon cans \$1.45 gal. Ready Mixed 5 gallon cans 1.30 gal. I gal. cans-4 to a case .15 more/gal.

Order direct from factory. All prices f.o.b. Sumter, S. C.

SOUTHERN COATINGS AND CHEMICAL COMPANY

SUMTER, SOUTH CAROLINA

Make Your Property Attract, HOLD, Feed MORE QUALL! PHEASANTS! GROUSE! and other Upland Game & Song Birds, Wild Ducks, by planting Wildlife Natural Food & Corer Plants; for all conditions & Cilimates. Suggestions, publications FREE!

WILD LIFE NURSERIES

growth cedar is almost invariably hollow butted, and the base tends to split and shatter on falling. For many years loggers left these slabs in the woods, and no finer shake material could be found. Where logging had been done by oxen, horses, or by low-powered donkey engines

stumpage prices were happy hunting

grounds for shake makers. Old-

in the early days, entire cedar butt logs were often left because they were too heavy for handling by available equipment. Early logging "shows" also left

high cedar stumps, perfectly sound except for occasional fire-charring. When timber was cheap, fallers worked high up the trunk from spring-boards notched into the tree. This served the double purpose of getting above the enormous and irregular butts of old cedars to a point where their falling saws were long enough for the job, and of avoiding the extra labor of cutting brush and saplings around the base of the tree. These stumps make good shakes down

Salvaging of cedar from these sources has continued since shakes became popular for modern homes, and although many old logging

to the point where the root system

Shake Maker

(From page 19)

combed for shake bolts, there seems to be a continuing supply. Logs are sawn and split into bolts of convenient handling size, then trucked to the shake maker's yard or barn where shake splitting can proceed under any weather conditions.

The splitting process is simple, although a skilled shake maker can produce twice as many shakes in a given time as an amateur, and of far better quality. The trick is in the proper handling of the froe. The blade is about three inches wide, fourteen to twenty inches long, with a wooden handle fitted through a circular eye at one end. The cedar bolt is placed upright on a platform, the free placed a half inch from one edge and, with a sharp blow from a vine maple club, embedded into the wood. A quick twist of the froe handle splits the shake from the bolt.

If splitting continues from the same end of the bolt, it will produce untapered slabs commonly called "barn shakes." To produce the more popular tapered shakes, the bolt is reversed end for end after each shake is split. Rough defects are trimmed off before the shakes are bundled. Trimming and bundling is often done by women or children.

Shakes are sold for cash, as shake makers don't like bookkeeping and need the ready money. Sales are made to local builders and lumber vards, or to buyers who accumulate them for rail or water shipment. The truckload brought in from the woods three months ago may now be on the roof of a Hollywood star, an Idaho ski lodge, or Mr. Astorbilt's new home in the suburbs of Philadelphia.

Shake making is one craft that refuses to be mechanized. High-powered shake splitting machines have been built to save labor, but shake splitters don't want their labor saved. Neither do they want to be bothered with overhead expenses, high taxes, industrial insurance and business efficiency. So after a brief period of operation the machine is forgotten and the shake maker goes back to his froe and maul.

The froe is probably the only hand tool that hasn't been changed from the original model, and that applies equally to "the man with the froe." He'll be up there in the woods splitting shakes as long as there's a cedar log to cut.



started.

Oak Wilt

(From page 11)

as a pipeline to spread the disease.

Dr. Riker, perhaps the best informed pathologist actively investigating oak wilt, has been successful in arresting the spread of the disease in localized areas by poisoning the oaks just beyond the border of the stricken trees. His experiments, conducted on six separate plots in 1947, proved poisoning in this manner was more effective than cutting down healthy trees around the perimeter of infection and severing the root connections.

For diseased white oaks, pruning has occasionally proven an effective treatment. If one or several branches show symptoms they can be removed and, later, if the disease develops on other branches they, too, can be pruned. However, it is not practical to employ this method throughout a large forest.

To date, these are the best methods of checking the spread of oak wilt. But pathologists are quick to admit they still have much to learn about the disease. For instance, they know it can get into a tree through bark wound infections and through grafted root systems, but they have not as yet been able to explain to their satisfaction how the disease jumps from one locality to another.

For example, it is known with reasonable certainty that in 1947 oak wilt was not present in the Cook County Forest Preserve near Chicago—at least a highly regarded forester could find no evidence of it. Yet on another check in 1948 newly infected trees were found. The same credence is not given the discovery of the disease around Gary, Indiana, for the first time last summer, for no previous investigations had been made in that area. It is possible oak wilt had been present there for several years.

Dr. J. C. Carter, of the Natural History Survey, Urbana, Illinois, another pathologist actively investigating the disease, believes it has been spreading. But how can it jump from one locality to another if it is not airborne? Lacking conclusive proof, pathologists point to two possibilities—transmittal of the spores by either insects or birds.

The map on page 14 shows all the areas known to be infected with oak wilt at this time, but investigations have not been conducted in all regions of these states to prove conclusively that the disease does not exist elsewhere. As to the incidence of disease, the Agricultural Experiment

Station at Iowa State College has found that one fourth of the oak trees in farm woodlots near Dubuque had been killed by the fungus, while in representative areas of Pilot Knob State Park half of the yellow oaks had succumbed to the wilt. Percentages vary in different localities.

Perhaps the best advice for residents within the infected area who

wish specific information about oak wilt is to contact their state agricultural experiment station. It is well also to remember there are other types of attacks on oaks which can be confused with oak wilt. For instance, there is anthracnos, a fungus leaf and twig blight which often attacks white and bur oak, kills tips of tender twig growth and causes leaves



20th Century Johnny Appleseed

We like to think of the 4-H Club and F. F. A. member who plants pine seedlings as the 20th century counterpart of Johnny Appleseed who, in his travels through the Middle West in the early part of the last century, planted apple seed along the highways and by-ways.

The seed that Johnny Appleseed planted produced trees which bore fruit that contributed to the health and well-being of peoples of many communities, just as the pine seedling which the farm youth plants today on soils too poor to grow field crops will contribute to the welfare of all Georgians.

Growing trees for tomorrow is a most important part of our forest conservation program. Since the opening of our Savannah plant we have planted on our lands and donated to 4-H Club and F. F. A. members for planting on lands owned by their parents or for use on forestry projects, more than 15 million pine seedlings.

Already many of these seedlings, planted only 14 years ago, are producing income for their owners and raw materials for the forest products industries of the state—a 300-million dollar annual business providing employment for more than 120,000 Georgians.

First of a series of conservation advertisements released to Georgia newspapers. UNION BAG

E- Paper Corporation

SAVANNAH GEORGIA

A

th

th

th

th

R

h li

th

0



low as \$16.00 per 1,000.
Strong, sturdy, well-rooted seedlings and transplants for Conservationists. Timber-Operators, or owners of idle land. MUSSER TREES ARE GROW-ING IN ALL 48 STATES.
For special Xmas Tree Growers' Guide, and complete Planting Stock Price List, Write Box 27-0

MUSSER FORESTS, INC., Indiana, Pa

TREE SEEDS

FOR FORESTERS and NURSERYMEN

Ask for Catalog

HERBST BROTHERS 92 Warren Street, New York 7, N. Y.



Last Call For **Planting Assortments** PACIFIC NORTHWEST CONIFERS Write for Price List

WOODSEED Salem, Ore. P.O. Box 647

SEEDS TREE - - SHRUB

E. C. MORAN Stanford, Montana

GROW TREES

FOR XMAS TREES & FORESTRY Fir, Pine and Spruce in variety. Seedlings and Transplants. Write for Price List. SUNCREST **EVERGREEN NURSERIES**

TREES FOR FOREST PLANTING PINE+SPRUCE

P. O. Box 643, Johnstown, Pa.

Firs, Arborvitaes and Other Conifers. We all our trees in our own nurs KEENE FORESTRY ASSOCIATES KEENE, NEW HAMPSHIRE



y Sarues, Red Pine. White Pine, Scotch Pine, Sprues, Black Hill Spruss, etc. Priess are able and the trees are GUARANTEED TO LIVE. WESTERN MAINE FOREST NURSERY COMPANY Dest. F. Fryeburg, Maine to curl and turn brown. While having many of the outward characteristics of oak wilt, this disease is not

Frost injury also results in the death of young leaves in early spring, and squirrels and deer-mice frequently girdle branches of oaks to produce symptoms similar to oak wilt. Then there are injuries caused by insects. such as the seventeen-year locust whose killing attacks might appear similar if viewed from a distance.

So if you suspect your trees are plagued with oak wilt, be sure you obtain detailed advice from a qualified pathologist before poisoning, removing, or pruning.

Forest of Laurentide

(From page 16)

ficial. More young tree growth and browse are provided than would otherwise exist. Due to the presence of cutters and camps, the moose and bear become more accustomed to humans and consequently are more easily seen. As to the question of whether they are being preserved in their natural state-the answer is obviously no.

On the other hand, the trout are not aided by dams on their lakes and pulpwood in their rivers. Yet so abundant are they and so numerous are their habitats that this point stirs no interest in the parliament buildings of Quebec. The fishing problem is treated as one of accessibility rather than conservation.

The prospectus of the Laurentide Park, issued by the Fish and Game Department, is most revealing as to what the public expects of it. First emphasis is laid upon the untouched beauty and second upon the size of the area and the number of the lakes. In the next paragraph the visitor is assured that he will reach his camp by graded roads, well-cleared hiking portages, and well-kept trails. Then follows a promise of "great untrod-den woods in all their native grandeur.

No attempt is made to reconcile the absurdity of driving through a wilderness on a graded road, and no mention is made of the cutting that goes on down the stream, across the ridge and back from the lake. Nor is any necessary. Most visitors are not aware of such cutting—and per-haps do not care anyway. Those that really seek the wilderness are not likely to be deceived by a pamphlet.

Forestry in Britain

(From page 28)

private owners of forest land are in favor of the dedication scheme, the response has been slow, according to the United Kingdom Forestry Committee, because of the absence of an assured market and prices, and the threat to continued family ownership of land due to the incidence of high death duties. It is their opinion that these major obstacles must be removed before maximum progress can

A private woodland owner who decides to dedicate must manage his land primarily for timber production under the supervision of a skilled forester, and he must manage his woodlands according to a plan of operations approved by the Forestry Commission. Once his woodlands have been dedicated to forestry, they cannot be diverted to other uses without the approval of the Forestry Commission. In the event the owner fails to manage his woodlands according to the approved plan, the Forestry Commission is entitled to assume management of his property. The state has proposed to even go so far as acquiring woodlands where the owner has not assured the Forestry

Commission of proper management with or without state assistance.

In return for agreeing to these dedication principles, the state provides financial assistance until the woods are self-supporting on one of two bases at the owner's option. He can either choose to receive twentyfive precent of his approved net annual expenditure on the dedicated woodlands, or he can choose to receive a planting grant of £12 (\$33) an acre and a maintenance grant for fifteen years of 4/0d (56c) an acre per year on every acre dedicated or planted. The planting grant but not the maintenance grant can be received on areas five acres or smaller and on woodlands not considered suitable for dedication provided it is agreed the area can be felled in time of national emergency.

Loans also are made available to owners of dedicated woodlands to cover a part of the high cost of replanting. The rate of interest is three percent to be repaid within fifty years from the date of the loan. Thinning grants of £3-15-0d (\$10) an acre are made to encourage thinning of plantations for pitprops. In the first two months of 1949 after this scheme was initiated, a total of 3300 acres was thinned.

In addition to financial assistance, the Forestry Commission renders advice to private woodland owners on

their forestry problems.

E. L. Mackillop, a member of the Royal Scottish Forestry Society, has suggested a scheme which he believes will be of greater assistance to the small landowner and the trustee of an estate. He suggests that the Forestry Commission should issue to the private owner a bond for the amount of approved expenditure carrying interest at three percent with a fixed date for redemption—the bond becoming redeemable according to the working plan when the timber is ready for felling.

There is no doubt that the private woodland owner needs financial assistance in re-planting his woodlands, for it is certain that planting costs an average of £40 (\$112) an acre or thereabouts at the present time. This figure for planting is astonishing to the American forester who figures that \$20 an acre is about the maximum he can afford to spend on

planting.

Planting costs are higher in Britain for the following reasons: First, rabbits are so numerous and destructive that practically every woodland area must be fenced before planting or natural regeneration can be established successfully. Directly or indirectly the rabbit is probably the largest debit item in most planting accounts. Second, the practice is to use chiefly older and larger seedlings and transplants and to plant them at closer spacing than in the United States. And, third, more attention is given to the filling-up of gaps in the plantations during the first two or three years. However, these higher costs are partially offset by higher stumpage rates and closer utilization of early thinnings for pitprops, fencing stakes, posts, poles, and rustic timbers.

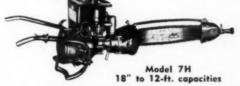
To assist the private woodland owner and the Forestry Commission in carrying out the dedication scheme, several timber merchants (lumber companies) have organized forestry departments to carry out reforestation programs on a contract basis. It was the writer's pleasure to serve as manager of the Forestry Department for John Sadd & Sons Ltd. in Maldon, Essex, who offers this service. According to the Federated Home Timber Association, twentyfour timber merchant firms are offering planting schemes on a contract basis, and they own nurseries total-



More Power...Lighter Weight Mall Gasoline CHAIN SAWS



Model 12A One-Man CHAIN SAW 18, 24, 30, 42-inch capacities HAS EVERY FEATURE of Mall Big Timber Saws—2-cycle gasoline engine with power to spare. Chrome plated cylinder • Stall-proof clutch • No-Kick easy rewind starter • One-piece guide plate • Built in chain oiler • Finger-tip control • High-speed cutting at every angle • Guide plates for various capacities interchangeable on engine • For felling, bucking, limbing.



MAKES SHORT WORK of Big Timber • Easily carried anywhere a man can walk • Bow saw attachment also available.

Write at once for FREE Demonstration and name of nearest dealer.

32 Factory-Owned Service Stations from Coast to Coast give quick, dependable repair service. Over 1,000 Mall Tools for a million jobs. A dealer in every town can supply you.

MALL TOOL COMPANY

7777 South Chicago Ave.

Chicago 19, III.

66 YEARS OF PROGRESS



Proudly stamped on the millions of feet of lumber produced annually by W. T. Smith is this familiar trade mark. The old locomotive stands as a symbol of many years of sound operating methods — selective cutting, fire prevention, reforestation and other measures to assure a permanent source of quality pine and hardwoods.

W. T. SMITH LUMBER CO.

WESTERN RANCHES

A RECOMMENDED LIST OF WESTERN RANCHES ACCEPTING GUESTS THIS YEAR. THESE RANCHES WILL WELCOME YOUR IN-**OUIRY AND WILL GUARAN-**TEE AN INTERESTING VACATION.

The A2Z and Valley Ranches

Valley, Wyoming. Located in the Wilderness Area of the Shoshone National Forest, provid-ing a July Pack Trip for young people, "Range group for teen-agers, comfortable cabins for families, Pack Outfits for Big Game hunt-ers. Write LARRY LAROM (member A. F. A.).

MOOSE HEAD RANCH

Located in beautiful, historic Jackson Hole, near Grand Toton and Yellowstone National Parks. Featuring out-door recreation, fine fishing, plenty of riding on a variety of scenic trails, big game hunting. Fun for the whole family, an ideal ranch for children. Open June lst to Nov. 1st. Reservations in advance, references required and exchanged. For rates, information, write Fred J. Topping, Jackson Hole, Elk P.O., Wyoming.

A REAL OPERATING STOCK AND DUDE RANCH, seven miles from the N.W. corner of Yellowstone Park in the heart of the Bockles. Wonderful trout fishing in both mountain lakes and streams. Horseback rides and pack trips into primitive wilderness. Capacity, 69 guests. Advance reservations—with or without private bath. Bates, 865,60 to 885.00 weeks,—include cabin, main raises to children with parents. For further information, write, phone or wire:

NINE QUARTER CIRCLE RANCH Gallatin Gateway, Mentana

Double K Mountain Ranch Goose Prairie, Washington

Adjacent to Mt. Rainier. Accommodations limited to twenty, completely modern, American Plan. Operated by owners. Outfitters for Cascade Crest Trail Ride of The American Forestry Association. Descriptive folder and rates on request.

Drop Us A Card Today. Drop Us A Card Today.

FAMOUS DUDE RANCH

(WITH ANNEX FOR BOYS)

Offers a real Ranch Vacation on eastern slope of Cascade Mountains—Best in Ranch life with city com-forts. Open all year for hunting, fishing and winter sports

DUDE RANCH FOR BOYS (new this year). Accommodate 50 boys a day. Guides furnished for them.

LAZY F DUDE RANCH Route I, Ellensburg, Washington



ing 125 acres in operation to date, with eight more expecting to establish nurseries this year.

It is appropriate to mention at this point that the majority of the seedlings and transplants are grown in Britain by commercial nurserymen; whereas, in the United States it is the state forest services that distribute most of the nursery stock to the private landowner.

There are also several consultant foresters undertaking planting contracts for the private land owner.

Scots and Corsican pine, Norway and Sitka spruce, European and Japanese larch, and Douglasfir are the most common conifers which are being planted. Oak, ash, beech, chestnut, and poplar are the principal hardwood species.

Sir William Taylor, forestry commissioner, sums up the forestry situation in Britain concisely with these words: "Never before has national forestry in any part of the world been faced with labors equal in vital urgency to those now confronting British foresters in this country, and what has been called the 'high cost of second best' will not suffice to restore the woods that we have lost.'

Attention

ALL BILTMOREANS

and Friends of

BILTMORE FOREST SCHOOL

Dr. C. A. SCHENCK

The reunion has been set

MAY 27 - MAY 30, 1950

at Asheville, North Carolina



WRITE FOR DETAILS TO

I. HAROLD PETERSON 619 OCEAN BOULEVARD CORONADO, CALIFORNIA

This Month With The ${ m AFA}$

Not all the problems of water and flood control are confined to the United States. Japan has them, too. Our friend and AFA member, Fred Schulley, dropped by the office for a visit recently with a colorful poster he had helped design for use in Japan, showing forests and flood control. Fred had to interpret for us and he reeled off the inscriptions first in Japanese. Fred is heading up all extension forestry in Japan and going great guns with the farmers there. His interesting story will be carried in a future issue.

Several other friends have also been on forestry work in Japan. Art Spillers of the United States Forest Service, tells of the terrific pressure on the land as the Japanese turned from war to agriculture and the need for food. Forested mountainsides are being cleared, and this is presenting enormous problems in soil erosion. L. L. Bishop was also overseas and is now back as executive secretary of the Texas Forestry Association. We haven't seen our Texas friend since his return.

Through the courtesy of General MacArthur's natural resources section, we are in proud possession of a collection of forty species of Japanese woods, beautifully finished and boxed, complete with scientific names. As we fingered through the collection we were pleased to see cousins to so many American woods, like the oaks, walnuts, pines and firs. Even with trees we find common friends throughout the world. Colonel Hubert G. Schenck, chief of the natural resources section, writes that 180 sets were prepared and sent to institutions throughout the world and can be obtained on a private basis from Kimura Engineering Company, 4, 6-chome, Kobiki-cho, Chuo-ku, Tokyo, Japan, for about 5000 ven (\$14) for the forty species set and 2500 ven (\$7) for a twenty species set.

Former students of the Biltmore Forest School, the first forestry school in the United States, will reunite at Asheville, North Carolina, May 27 through May 30, to celebrate the 52nd anniversary year of the school and honor its founder, Dr. C. A. Schenck.

During the three-day exercises, trips will be made to forest plantings set out by the early day students and to other forestry projects initiated through the school. The sessions will be highlighted by a trip to Mount Pisgah to the Pink Beds where the school's summer sessions were held. Here at the site of the old school house, Biltmore alumni will unveil a bronze plaque reading:

BILTMORE FORESTRY SCHOOL FOUNDED 1898

This tablet, marking the site of the school building, is erected in honor of Dr. C. A. Schenck, founder of the Biltmore Forest School, the first school of forestry in the United States.—The Alumni—1950.

The Biltmore School was discontinued a number of years ago, but it was here that the training of professional foresters was first inaugurated in the United States by Dr. Schenck, who came over from Germany and brought the ideas which had proved so effective over there. Its graduates include many men prominent in America's forestry profession.

The school was started on the G. W. Vanderbilt estate, where Dr. Schenck served as forester. Much of this vast area is now the Pisgah National Forest.

The reunion will probably be the first and last of the Biltmore school. Invitations to attend are being sent to other foresters in the country. Headquarters for the occasion are to be the Vanderbilt Hotel at Asheville.

J. Harold Peterson, 619 Ocean Boulevard, Coronado, California, is in charge of arrangements and may be contacted for further details.

AFA's color cartoon booklet on forest fire is starting to receive widespread attention and bouquets. Presented in four colors, its sixteen pages carry an interesting and powerful message on fire prevention—and it is guaranteed good tonic for grown-ups as well as the youngster. The booklet is intended for sponsorship by industries, business firms and organizations, and the sponsor's name can

be printed on the back cover on quantities over 10,000. Here is a good project for AFA members who can help obtain local sponsors and arrange for distribution through schools and other channels.

Typical of the comments received at AFA headquarters was this one from AFA'er E. M. McNish of Franklin, North Carolina. "Let me compliment you on your decision to take Smokey to the comics. I really think you have hit on something good. I was more sure of this when I had my son, eight years old, read it and watched his reaction and answered his questions on forest fires. Keep up the good work."

The Trail Riders of the Wilderness are shaking out the old duffel, examining boots and blowing up air mattresses in anticipation of another wilderness expedition this summer. Reservations for all trips are reaching us every day. The Quetico-Superior canoes are at the point of capsizing with riders-looks like we will have to schedule another-for late July. The early Smokies and Montana expeditions also are proving attractive, and Dorothy Dixon, our hard-working director of this project, warns that you let her know your plans promptly so she can save a place for you.

In accordance with the suggestion of the Board of Directors at the December meeting, we are happy to announce the appointment of Donald S. Farver as business manager of The American Forestry Association.

Mr. Farver, who joined the staff on March 7, comes to us from the National Association of Broadcasters where he was employed for three-anda-half years as auditor, cost accountant and in general office functions.

Previously he was junior accountant with Frazier and Torbet, CPA firm in Washington, and was employed four years by the Potomac Electric Power Company as junior representative in the sales and promotion department.

Mr. Farver served in the Army five years, rose from private to major, and commanded a battalion in the European theatre. He was decorated with the bronze star, Croix de guerre and four battle stars. He is currently a major in the Air Force Reserve. A native Virginian, his home is in McLean. He is a graduate of the University of Virginia, is married, and has three sons.

EDITORIAL

The Need for a Long-Range Research Program

While there was an element of "cry wolf" in mid-February press and radio reports that the nation's rich heritage of oaks was endangered by a fungus disease known as oak wilt (see "Facts About the Oak Wilt" on page 10), there is no mistaking the fact that in six midwestern states thousands of highly valued oak trees are dying. Nor can we turn away from the obvious truth that harried pathologists on the scene lack at present the knowledge and means necessary to check its spread.

Oak trees have been dying in the Middle West since 1925, but it was not until a few years ago that pathologists were able to determine the cause—the fungus Chalara quercina, which grows in the sapwood of the tree. Since then it has been determined that the fungus can infect oak trees through bark wounds, that it can spread from a diseased tree to a healthy tree by passing through naturally grafted roots, common in oak woods. But it is not known how the fungus spreads from one locality to another, nor to trees beyond the range of naturally grafted roots.

Over-dramatic press and radio reports—one placing the rate of spread at fifty miles a day—answered this key question by declaring that the fungus spores were airborne, like those of the chestnut blight. But pathologists on the scene see it differently. No less an authority than Dr. Curtis May, senior pathologist of the Bureau of Plant Industry, U. S. Department of Agriculture, states that no spores have been found on the outside of oaks, and therefore it is not likely the disease is "commonly and importantly" airborne.

The plain fact of the matter is that pathologists have yet to solve the riddle of how oak wilt spreads, except through grafted roots. Nor do they know why the disease preys only on the oaks. Is it a matter of soil, a biological characteristic of the attacking organism, or the physiological makeup of the tree itself?

In the wake of aroused public interest in this threat to the oaks, The American Forestry Association has received hundreds of letters asking questions that have a familiar ring—the same questions that were asked during the chestnut blight, when the damaging Dutch elm disease and other major infestations struck. And they are questions that involve fundamental long-term research, not emergency studies directed at the relief of an immediate problem.

Acutely conscious of this void in current laboratory quests, the Association has initiated a program for long-term basic research on trees and the insects and diseases that attack them. The Association itself will not engage in actual research; instead, it will build up support for federal, state and private agencies launching long-term projects. It will be the persisting agency to sustain these research projects through periods of pressure from political and other self interests, and to interpret for the public the meaning and importance of accomplishments.

The monetary value of wood products destroyed annually by insects and disease is estimated at \$200,000,000. And this has been going on for the past sixty years, through forty-four major epidemics. A number of these damaging agents—such as the white pine blister rust, Dutch elm disease and gypsy moth—have been taking their toll over a considerable span of years. Nearly \$70,000,000 have been spent for control measures against the gypsy moth alone.

These losses, plus additional drains from wildfire and excessive or bad cutting practices, have so depleted forest resources in some sections of the country that any threat of damage which might have been ignored a few years ago now results in public demand for immediate corrective action.

For example, the southern pine, Douglasfir, ponderosa pine and white oak regions today account for more than seventy-five percent of the nation's timber requirements. If these species were struck by fast-spreading destruction comparable to that wreaked by disease and insects in certain other species, the loss could assume the proportions of a national disaster.

Control programs presuppose that sufficient information is at hand regarding the biological nature of the destructive agent and its host or hosts. Yet control expenditures must often be made on the basis of partial or incomplete information; at times there has been such a complete lack of knowledge that it was impossible to implement a sound control program before a scourge swept over a large area or through an entire species. Witness the chestnut blight.

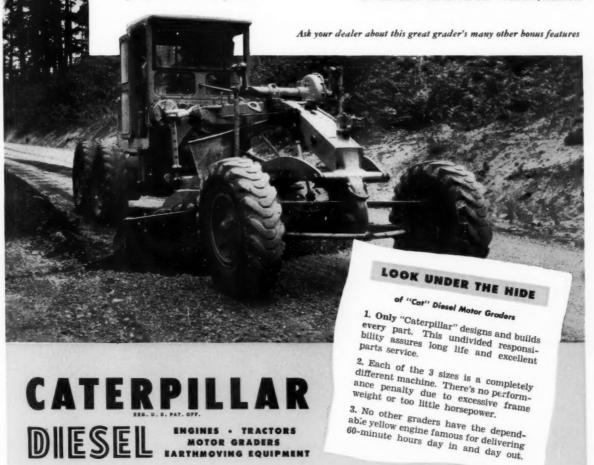
Not until emergency situations arise are funds now alloted for research. It is the Association's objective to remedy this situation by influencing the initiation and maintenance of a long-range program of fundamental research.

A GREAT GRADER!

Vital to our country's future is the protection of its timber resources. Assisting the men responsible for this important program are many big yellow machines—among them, this rugged "Caterpillar" Diesel No. 12 Motor Grader. Delivering 60-minute hours, hour after hour, day in and day out, the No. 12 maintains 30 miles of access roads leading from mills at Roseburg to the Umpqua National Forest, Oregon. The timber is being logged on a "sustained yield" basis—and the roads the No. 12 keeps in shape at low cost contribute to the speedy conversion of logs to lumber and profit.

All over the country "Cat" Motor Graders are writing outstanding on-the-job performance records. More than 9 out of 10 ever built are still in use. Your "Caterpillar" dealer, as close as your phone for information or service, believes sincerely that they are the best in the market. Whatever the grading job, there's one the right size for it. Get the full facts from your dealer. Ask him for a showing of the new film, "Better Blading," and a demonstration of this great grader in action. There's no better way of seeing what it can do for you!

CATERPILLAR TRACTOR CO. . PEORIA, ILLINOIS



Read What Users Say About INDIAN FIRE PUMPS!

AGENTS WANTED

"Never Saw So Much Fire Extinguished with So Little Water!"

A rancher phoned for help to fight a prairie fire. The Fire Chief and I took 2 INDIAN FIRE PUMPS and were able to extinguish. the fire as fast as we could walk. Flames were from two to four feet high driven

Best of all we still had water left in both five by a strong wind. gal. tanks. INDIANS sure do a great job. W. N. Burden, Councilman



"Uses INDIANS More Than Any Other Equipment!"

Rush four No. 908 solid brass INDIAN FIRE PUMPS and four carrying racks for mounting.

We have several of these pumps now and are adding more because we use INDIANS more than any other equipment in our department.

J. S. Allenswarth Fire Chief

"INDIAN FIRE PUMPS Very Successful!"

Your INDIAN FIRE PUMP has been very successful in extinguishing fires beyond the reach of the booster line of our fire patrol jeep.

On one occasion the fire had dropped over the edge of a cliff and it was necessary to climb the face of the cliff to put out the fire. As the INDIAN could be back packed there was no difficulty in climbing to the spot fires and extinguishing them.

Timothy G. Stillman Fire Protection Laboratory

"Saved the House with INDIAN FIRE PUMPS!"

Two of your INDIAN FIRE PUMPS held a fire in my home in check until the fire truck from Augusta made the run out into the country 7-1/2 miles and saved the house.

The INDIAN did great work holding the fire in check and is a wonderful fire fighter.

Mrs. Jennie J. Brackett



FOR DESCRIPTIVE INFORMATION ON THESE FAMOUS FIRE EXTINGUISHERS WRITE TO D. B. SMITH & CO. UTICA 2, N. Y.

